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# AMATEUR RADIO

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**VK7WI:** Sundays, at 1000 hours EST, on 7146 Kc. and 146.5 Mc. No frequency checks available.

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Melbourne, C.I.

## EDITORIAL

★

## AUSTRALIAN RADIO AMATEUR CALL BOOK

Last year the Wireless Institute of Australia completed two years of negotiations to obtain the exclusive rights to publish the list of licensed Australian transmitting Amateurs. The first edition was "on the street" in April, and how it was received by the Amateurs and Short Wave Listeners after so many years without one, is now history.

After a year in circulation the Institute can look back with pride at the success of its first attempt to publish a book of this nature. However, without the loyal support of Advertisers and the sales to Amateurs and Short Wave Listeners, the success of the publication could not have been achieved. To all those people, the Institute says "thank you!"

Although the publication sold well it was surprising the quantity left over, considering that an up-to-date listing had not been printed for some years. A Commonwealth-wide check on sales figures indicates a fairly high percentage of non-purchasers amongst the DX men, who, according to their own line of thinking, are not so concerned with the names, call signs and addresses of Australian Amateurs as they are with those outside of Australia.

The Institute cannot force each and every member to purchase a copy of its Call Book, although it is not considered infradig to expect it just the same. The book is not dear ranged alongside most publications today. Every copy sold helps to keep the publication alive, up-to-date and with added attractive sections.

This month—July, 1955—the second edition is available carrying over one thousand changes; every change of address, and altered and new call signs made since the last publication are included.

In addition a new and comprehensive section is included listing all the International Awards for which the DX enthusiast can apply. It is believed that this is the most complete list published in any one journal before, and includes Awards for the Short Wave Listener as well.

This is the first addition to the Australian Radio Amateur Call Book and, it is hoped, the forerunner of a number of proposed sections that will be added annually as each new edition goes to press.

It is your book! Your support will maintain a valuable service not only to Australian Amateurs, but Amateurs all over the world.

FEDERAL EXECUTIVE

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# Wideband Audio Phase Shift Networks

## PART TWO

### THOSE UNUSUAL VALUES

In searching for components of the correct values for the designs worked out (see Part One, previous issue), it is unlikely that you will be able to obtain them exactly. Choose either all your condensers (or all your resistors) as near as possible to the "target" values aimed for, as an error in one pair of components can be compensated for as follows:

In each network there are three pairs of components and the R/C products for these three pairs are the same, i.e.

$$R_1 C_1 = R_2 C_2 = R_3 C_3$$

Referring to the A network design,

$$R_1 = 15,000 \text{ ohms}$$

$$C_1 = 0.00714 \mu\text{F}$$

The product of the two is

$$15,000 \times 0.00714 = 107.1$$

The product of R2 C2 will be the same, i.e. 107. Product of R3 C3 will differ if resistance voltage dividers are used on the outputs.

Incidentally, all calculations for this article were done on a slide rule and decimals are only taken to five places, so if there is a slight discrepancy between some of the sets of R/C values for each network don't worry, the error will not be worth considering.

Assume our nearest condenser, measured 0.0071 uF. To find the new target value for R1 =

$$\frac{107.1}{0.007} = 15,300 \text{ ohms.}$$

We could, of course, fix the value of R1 and determine a new value for C1—

$$\text{from } C_1 = \frac{107.1}{R_1}$$

All three pairs of components in each network can be treated similarly, but remember the R/C value of the B network pairs will be different to that of the A network.

Yet another method of checking the operation of pairs of components is available to us, once again by the use of the c.r.o. and the audio oscillator. The design frequency for the A network was 1,488 cycles, and that for the B network 329 cycles. At 1488 cycles the three pairs of components in network A will give us a 45° phase shift, likewise the pairs of components in network B will behave similarly at 329 cycles.

The test set-up needed for this will be the same as that used to align the type of network used in the G.E. "Ham News" S.s.b. Junior Transmitter and Signal Slicer Receiving Adaptor, which is the next unit to be discussed. The c.r.o. patterns observed will be the same, but the tests must be done at the design frequency of the A and B networks, not forgetting of course to check the c.r.o. to see if phase shift correction is required.

Fig. 8 shows the basic schematic of the phase shift unit popularised by the articles on s.s.b. equipment in G.E. "Ham News." This unit is one of the simplest and has a lower insertion

loss. It is rapidly gaining in popularity and is manufactured commercially in the U.S.A. by at least one firm and whilst this article was in course of preparation, the writer was informed that one Sydney manufacturer will, upon request, make a kit of precision condensers for this particular phase shift unit available at quite a reasonable figure. The differential phase shift between the outputs can be kept to within  $\pm 1.3^\circ$  of 90° when properly adjusted, over a frequency range from 225 cycles to 2750 cycles. This means that over a frequency range of 12:1 the worst suppression obtainable is 39 db, and the average is around 45 db.

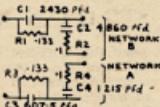


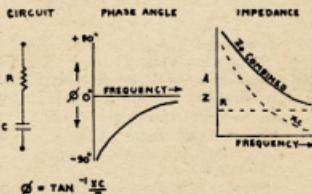
Fig. 8.—Phase Shift Unit popularised by G.E.

This unit is fed from an unbalanced push pull source as will be seen from Fig. 11. The arm of the pot. in the input circuit is grounded and from A to ground the voltage measured with a v.t.v.m. should be 28.57% of that measured from B to ground.

This design incidentally is worked out on the basis that the geometric mean frequency of the audio range is 800 cycles, as against the frequency of 700 cycles used for the design of the lattice networks just dealt with.

In connection with the components of this network, the values of the 0.1 meg. and 0.133 meg resistors should be as close as possible to the ratio of 3:4 to each other, this is more important than their actual value. In VK and ZL, precision 0.05 and 0.1 meg. resistors are available and the above values can be built up using these with little trouble. The 0.133 meg. being obtained by using 0.05 and 0.1 meg. connected in parallel, in series with another 0.1 meg. resistor.

The condensers can be built up by using a fixed condenser slightly less capacity than that specified, paralleled by a variable padger unit of suitable size, to enable the exact capacity required to be obtained during the alignment procedure.



BY N. SOUTHWELL,\* VK2ZF

For the easy going, there is an easy way out. Measure all the components on a bridge, obtain the correct values and assemble them. The result will be satisfactory, but the performance of such a network would not be as good as one which was individually aligned. This is brought about by the use of different reference standards for resistance and capacity, the alignment by means of a c.r.o. and oscillator overcomes this difficulty.

Amplitude balance between the two outputs in this design is satisfactorily obtained by varying the cathode bias, and thus the output, of one of the tubes following the phase shift unit, the correction usually required is small. This type of network must be fed directly to the grid of a tube as shown.

To align the networks, wire up the circuit shown in Fig. 10. The transformer used should be of good quality, the ones the writer has seen recommended for use with these networks in the U.S.A. are unobtainable in Australia, but no trouble was had with three transformers tested in conjunction with these units. Feed tone from the oscillator and adjust the arm of the pot. until equal voltages are obtained, between it and points A and B. Check these voltages by use of the c.r.o. With no signal applied to the horizontal input, connect the vertical input in turn between A and B to ground, and adjust the arm of the pot. for equal deflection of the trace in each position.

With the phase shift unit components mounted, but not wired, connect R1 and C1 in series. Then connect the free end of C1 to A, and the free end of R1 to B. With the c.r.o. connected as shown, it can be checked to see if any phase correction is required by connecting leads C and D temporarily to A, having the oscillator set to a frequency of 490 c.p.s. Then move lead D from the junction of C1 and R1, adjust C1 until circular trace is obtained as described previously. Conduct this adjustment at a low level to avoid overload.

Having obtained the correct pattern, disconnect R1 and C1 and connect R2 and C2 up in series in their place. Move the oscillator frequency to 326.7 c.p.s., check the c.r.o. to see if phase correction is required, and repeat the line-up operation on this pair of components. These four components comprise one network.

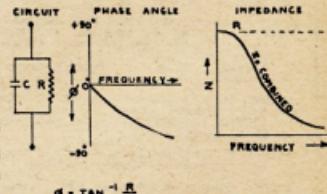


Fig. 9.—Characteristics of Series and Parallel R/C Circuits.

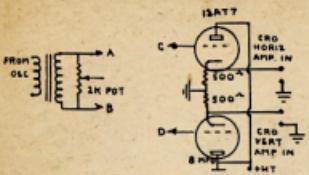


Fig. 10.—Test and Adjustment Circuit for Phase Shift Networks.

See text for connections to A, B, C, D.

The same procedure is followed when lining up the components of the second network. R3 and C3 are adjusted at a frequency of 1960 c.p.s. and R4 and C4 at 1307 c.p.s.

To check the complete phase shift unit after wiring is complete, use the set-up in Fig. 10, connecting leads A and B to the input and leads C and D to the two outputs. Refer to Fig. 11 for the network connections. Set the oscillator frequency to 1250 c.p.s. and adjust the arm of the pot until a circular trace is obtained on the c.r.o. Swinging the oscillator frequency now from 200 c.p.s. at 3,000 c.p.s., the c.r.o. pattern should be perfectly circular at 440, 1225 and 2500 c.p.s., wobbling a little from side to side as intermediate frequencies are covered. For use in transmitters, the complete network set up is as shown in Fig. 11.

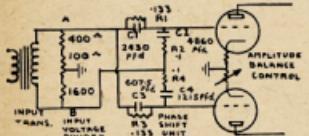


Fig. 11.—Complete Circuit of Phase Shift Unit in Fig. 8 connected for use in a Transmitter.

The tapped 100 ohm resistor shown in series with two other resistors across the secondary of the input transformer should be a potentiometer with the moving arm going to earth.

It will be noticed that the frequencies used in the alignment of this type of network are not round figures. Don't let this worry you if you are after accuracy, as there is a fairly simple way out of the difficulty. The ratio of these frequencies to each other is more important than their actual frequency. All frequencies used are sub-harmonics of 3920 c.p.s. If a stable simple oscillator of fixed frequency is built, whose output approximates the above figure, the main audio oscillator can be set to the frequencies required by feeding both oscillator outputs to the c.r.o. and using Lissajous figures to set the frequency of the variable oscillator. The procedure for obtaining these figures and their interpretation is simple and is covered in most Amateur Handbooks.

There is another type of unit which is similar as far as electrical circuitry is concerned to that of the G.E. unit shown in Fig. 8. However, the ratios that the various components bear to each other is different. The design equations differ from the lattice type network equations given earlier. However, from the design equation for one of these units covering

a frequency range 300-3000 cycles, the following ratios hold good. (For nomenclature refer to Fig. 8, but note, these ratios do not apply to the values given in Fig. 8 for the G.E. network.)

$$\frac{R_1}{R_2} = \frac{R_3}{R_4} = \frac{C_2}{C_1} = \frac{C_4}{C_3} = 1.58$$

$$\frac{1}{R_2 \times C_2} = \frac{1}{R_1 \times C_1} = 3,015$$

$$\frac{1}{R_4 \times C_4} = \frac{1}{R_3 \times C_3} = 11,780$$

To construct one of these units, pick a common value for R1 and R3, or C1 and C3 and calculate the rest of the values from the data above. The input voltage divider in this case had best be solely a pot of 1,000 ohms or so. The input voltages required will be unbalanced, but a different ratio to those stated for the G.E. network. Adjust the divider, using the set-up in Fig. 10, with a completed unit and a frequency of 1,000 cycles/sec. Using equal gain in each oscilloscope channel, adjust the input pot until the circular pattern is obtained on the screen. The frequencies for adjustment of the pairs of components will be those where the reactance of the condenser in each pair equals the resistance that goes with it, thus giving a 45° phase shift. The test set-up will be as in Fig. 10 and used as for the G.E. network.

From experience gained since the article was first written has proved that the lattice networks are more tolerant regarding operating conditions than the G.E. type networks.

#### NETWORK CONSTRUCTION

The most popular form of construction appears to be that of mounting the components on a section of "fish back" strip, so that they are readily accessible during initial testing and adjustment. It will be found best to wire up the strip, also attach input, output and earth leads to it before mounting components, then mount the condensers and finally the resistors. This sequence of working gives less chance of the resistors becoming heated accidentally. If carbon resistors are used, they must at all costs be protected from heating.

This is best accomplished by leaving their pigtail uncut and clamping each one between the jaws of a pair of bulb-nose pliers as a thermal shunt, to keep heat away from the components whilst the soldering of that pigtail is taking place. Do not be in a hurry to remove the pliers, wait until the work has cooled. Carbon resistors, upon being heated, change their value, it usually increasing, by anything up to 20%, and this change is permanent—so be careful.

One watt and half watt rating resistors have been used with no trouble of any sort in a number of networks, some of which have been in use three years and have been stable in all respects. Quarter watt resistors have not been used as on occasions the writer has found these to "age" more than the larger rating types. Some brands of resistors have a better reputation for stability than others, these brands are generally known to Amateurs from hard experience. Naturally choose reputable makes of resistors for use in phase shift units.

Should you use wire wound precision resistors, then ignore remarks made concerning avoiding heating the resistors, however be sure your precision resistors are wire wound, there are carbon precision resistors available which have an accuracy of ±1%.

Anyone nervous of heating the resistors can easily manufacture a mounting strip using small bolts and nuts, thus obviating soldering the phase shift unit resistors in place.

Condensers used should be mica, or silver mica; postage stamp varieties are quite suitable. Do not use paper or metallized paper condensers. Ceramic dielectric condensers are also unsuitable. Variable condensers, where needed, can be of the mica compression type, used as paddler condensers in B/C sets. It is better not to try and make the unit too compact; on more than one occasion the writer has seen whole units wrecked because they became over-heated during soldering, due to their small physical size.

The signal level at which the phase shift units operate is relatively high and no need has been found to shield any to date because of feed back troubles. From a long range point of view, it is best though to mount the unit inside a case, and wire it to a tag strip mounted outside, or to terminals on the case. Then connections to the unit can be altered readily, with no fear of heating up the components.

#### GENERAL

The close tolerances called for when selecting component values for use in phase shift units has caused concern to nearly all who have thought of building them. If the components vary from the "target" values aimed at, the operating range of the network will shift up or down the audio range. If the components are larger than required the frequency will drop and vice-versa.

Intelligent use of an oscillator and a c.r.o. will eliminate any doubt in your mind as to just what is taking place in a phase shift unit. Remember that components can be split up into pairs and checked, as described previously, should you have reason to believe that something is wrong with the operating characteristics of any network. The information in this article should be sufficient to enable you to trouble-shoot any type of unit.

The differential phase shift of the two networks (i.e. the phase difference between their outputs) depends upon the accuracy of their components. The ratio of desired to undesired sideband depends also upon this accuracy, which is really how much the phase shift difference in the two network outputs depart from the 90° figure aimed at. The ratio of the two side bands can be obtained from the formula—

$$\frac{\text{undesired sideband}}{\text{desired sideband}} = \tan \left( \frac{D}{2} \right)$$

where D = the deviation in degrees from 90° between the two outputs.

At different frequencies in the operating range, the deviation will be different (remember how a perfect circle trace in the c.r.o. cannot be obtained over the whole operating range). This formula can be used to obtain the side-

(Continued on Page 12)

# ZEPHYR MICROPHONES



"THE MICROPHONE THAT SPEAKS FOR ITSELF"

## TYPE "80"

A high quality Moving Coil Microphone of striking appearance and fidelity.

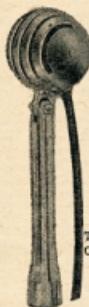
- Ideal for transmission of voice or music.
- Good appearance.
- Solid cast case, finished in stoved black enamel, full tilting head.



## TYPE "8XA"

A quality Crystal Insert with "Zephyrfil" filter.

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- Full tilting head.



## TYPE "40"

A high grade Studio Microphone, reasonably priced, for those requiring high fidelity.

- Imported magnets, highly efficient generator.
- Fully protected against dust and filings.
- Rotatable cage—360°.
- Chrome copper cage, black bakelite base, and steel gimbals.

## TYPE "90"

Precision built Moving Coil Generator provides good quality reproduction.

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- Full tilting head.
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# Modification of MN26 Receivers

BY S. T. CLARK,\* VK3ASC

THESE receivers were manufactured in quantity during the War by Bendix Radio for use in aircraft as part of MN31 Automatic Radio Compass equipment.

From time to time numbers of these receivers have been available inexpensively on the disposal market. They are of superlative construction and cover a useful frequency range.

The modifications to be detailed are as follows:

- (1) The receiver is for use as a car radio.
- (2) A.C. powered for use as a b.c. receiver in the shack, or as an i.f. channel following either a converter or a receiver such as the BC348.
- (3) Readers are referred to "QST" for December, 1952, "A Bargain Novice Station." This deals with the conversion of an MN26Y for use on 80 metres and the addition of a simple one-valve trans-

\*Flat 20, 100 Drummond Street, Carlton, Vic.

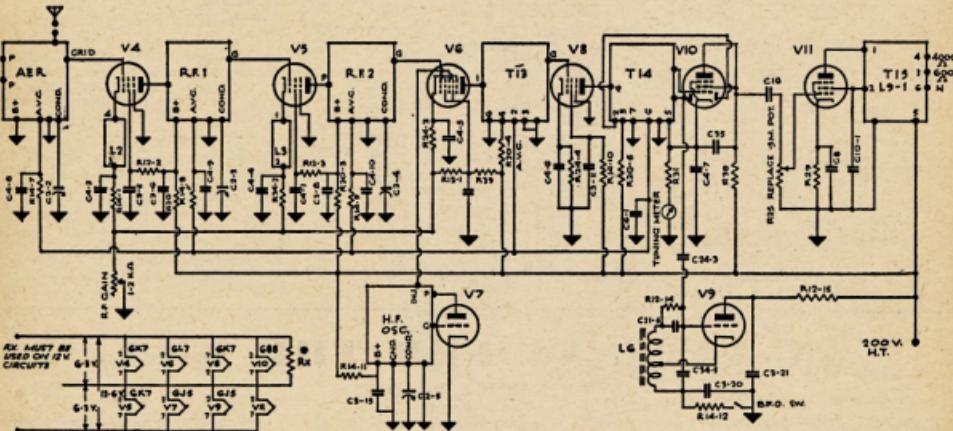


Fig. 1.—MN26 Receiver Circuit modified for a.c. operation.

\*Rx—For 12v. operation as follows: 6F6 15.75 ohms, 6K6 63 ohms, 6V6 42 ohms, or number 46 pilot lamp.

C1-1 to C1-5 .6-.25 pF, variable.  
C1-2 to C1-5 .5 section variable, 12.5-400 pF.  
C3-1 to C3-5 .05 pF, 400v. d.c.w. mica-mold.  
C4-1 to C4-11 .05 uF, 200v. d.c.w. mica-mold.  
C5-1, C5-2 .01 uF, 200v.  
C6-1, C6-2 .02 uF, 200v.  
C7-1 .05 uF, 200v.  
C8-5 uF, 50v. oil.  
C9-1, C9-2 .2 section, 0.5 uF, 100v. d.c.w.  
C10-1, C10-2 .2 section, 0.6 uF, 400v. d.c.w.  
C11-1 to C11-3 .35 pF, N6801N, 500v. d.c.w. ceram.  
C12-1, C12-2 .50 pF, 500v. d.c.w. ceramic.  
C13—100 pF, 500v. ceramic.  
C14-1, C14-2 .05 uF .25 tol., 300v. d.c.w. mica.  
C15—.60 uF, 500v. mica.  
C16—.60 uF, 300v. mica.  
C17—.25 pF, 500v. mica.  
C18-1, C18-2—.250 pF .5% tol., 500v. d.c.w. mica.  
C20-1, C20-2—.10 pF, 500v. d.c.w. ceramic.  
C21-1 to C21-4 .100 pF, 500v. mica.  
C22-1, C22-2—.300 pF .5% tol., 500v. d.c.w. mica.  
C23-1, C23-2 .75 pF .5% tol., 500v. d.c.w. mica.  
C24-1 to C24-3 .3 pF, 500v. 10% tol., ceramic.

C25—.15 pF, mica.  
C26—.25 pF, mica.  
C28—.625 pF, 5% tolerance, mica.  
C31—.1286 pF, .5% tolerance, mica.  
C32—.2514 pF, 5% tolerance, mica.  
C34-1 to C34-3 .500 pF .2% tol., 500v. d.c. mica.  
C35—.100 pF, 5% tolerance, mica.  
C37-1 to C37-3 .3 section, 0.1 uF, 400v. d.c.  
C38—.100 pF .2% tolerance, mica.  
C39-1 to C39-3 .01 uF, 10% tolerance, 400v.  
C40—V7 grid parallel padder.  
L8—40 ohm H.V. R.F.C.  
L8-2—Filter choke, 8 H. 50 Ma. part of T15.  
T15-2—Filter choke, 6 H. 50 Ma. part of T16.  
NE1, NE2—Overload Discharge Neon, 60v., 1/25 watt.  
R1—Loop gain control, 15,000 D taper pot.  
R1—300 ohms.  
R9-1 to R9-3 .3 ohm, ½ watt, wirewound.  
R10-1, R10-2 .200 ohms, ½ watt.  
R11-1, R11-2 .20 ohms, ½ watt.  
R12-2 to R12-5 .01 meghom, ½ watt.  
R13-1, R13-2—150,000 ohms, ½ watt.  
R14-1 to R14-13 .50,000 ohms, ¼ watt, 10% tolerance, ceramic.  
R15-1, R15-2—2,000 10% tolerance, ¼ watt.  
R18-1, R18-2—meghom, ¼ watt.  
R20-2 to R20-5 .50,000 ohms, ¼ watt.  
R21—.000,000 15% tolerance, ¼ watt.  
R22-1 to R22-3 .5 meghom, ¼ watt.  
R23-1—.10,000 ohms, ¼ watt.  
R24-1 to R24-6 .600 ohms, ¼ watt.  
R27—.100 ohms, ¼ watt.  
R28—.100 ohms, ¼ watt.  
R29—.500 ohms, ¼ watt.  
R31—.3,000 ohms, ¼ watt.  
R32—.300,000 ohms, ¼ watt.  
R35-1—.117, .30 and .67 ohms.  
R36—.100 ohms, ¼ watt.  
R37-1, R37-2—.75, .8, 12.6 and 63 ohms.  
R38—.25,000 ohms.  
R39—.25,000 ohms.  
T15—Audio output, prim.: 645 ohms d.c., sec.: 100 ohms.  
T16—Compass output, prim.: 2,400 ohms d.c., sec.: 14.5 ohms d.c.

removed from the chassis together with their associated wiring.

Loop tuning circuits, V1, R7, C4-1, C3-2, R14-13, R19-2, C3-1, R22-2 C4-2. Phaser, C39-1, R12-10, R12-11, C39-2, R21, R22-1, R22-2, R15-1, R15-2, C3-14, C3-15, R23, R14-6, C3-16, RE1, R18, C2-1, V2, R14-2, R27, R14-1, R12-12, R1, C4-11, R12-13, R36a and b, R34-1, L7-1, L7-2, C9-1, C9-2, C37-1, C37-2, C37-3, C10-2, L8, R12-9, RE2, V12, T16, C5-2, L9-2, R13-2, C39-3, R24-5, R19-1, R22-3, C5-1, R32 and C7.

If the filaments are wired as shown on the circuit, then the filament wiring can be conveniently connected for operation either from a 6.3v. or a 12.6v. source. I feel that it is now time to discuss the mechanical changes which are

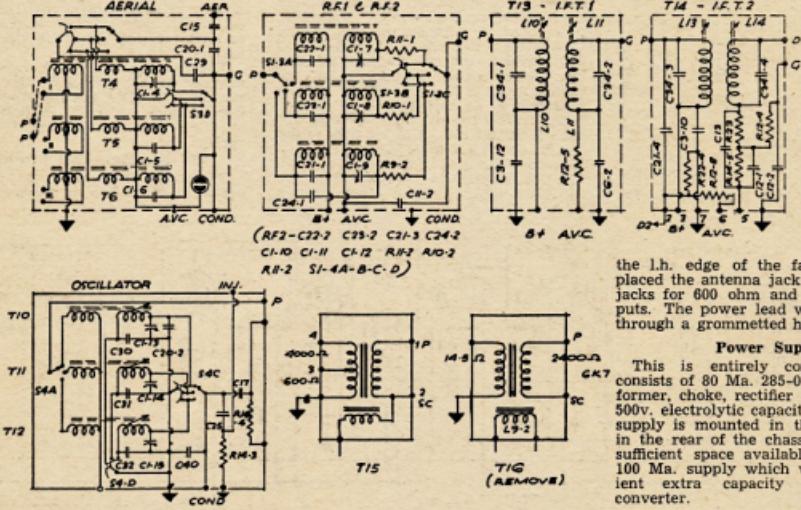
necessary. Since the receiver has a fine reduction gear drive built into it, the writer felt that it should be used. A false front, folded from 16 gauge aluminium sheet, was therefore made as one would a chassis, the lips being folded in at the bottom for half an inch. The whole thing was made the same size as the original front panel and  $1\frac{1}{2}$ " in depth.

This permitted a cutout to be made for a dial which was made from a sheet of perspex  $\frac{1}{8}$ " in thickness to which was cemented a sheet of drawing paper (the solvent for perspex is chloroform). The dial is fixed to the shaft by a single  $5/32$ " machine screw tapped axially into it after the assembly has been

turned so that the drive enters horizontally from the right hand side.

If there is no splined adaptor available for the drive one can easily be made by drilling a shaft extension so that it is a force fit onto the male spline or, if the hole in the extension is too large, the cupped end can be filled with molten solder and pushed on before the solder has time to harden. A good threaded internally to screw on and hold this in place is a decided advantage, but not essential.

In my case I had a meter of the correct type and this was mounted in the top l.h. corner of the front panel. R.F. gain bottom l.h. corner and the a.f. gain shaft passed through the panel in a similar position on the front r.h.s. On



## **AN ACCURATE ELECTRONIC TIMER**

BY R. BARNETT\*

Although it may, at first glance, seem slightly out of place with the usual Amateur equipment, this gadget will do many useful jobs around the shack and is simple enough for beginners to tackle. For those photographic enthusiasts who do their own processing, it can be regarded as an essential piece of equipment for timing the enlarger, etc.

It will provide accurate delayed switching of any circuit of up to 200 watts capacity, the delay being variable from one half second to 85 seconds through five ranges. The original, built by the author, is accurate to plus or minus one twentieth of a second, and could probably be improved beyond this by the use of better quality components, as it was built "from the junk box."

Case and chassis details have been omitted as these are best made to suit odd parts you may have on hand. The original was built on a chassis 4" x 5" and housed in a case 4" x 5" x 8 $\frac{1}{2}$ ". The double pole double throw relay was taken from an I.F.F. unit, but could be any relay closing with a current flow of about 5 Ma. and with a resistance of from 5,000 to 10,000 ohms.

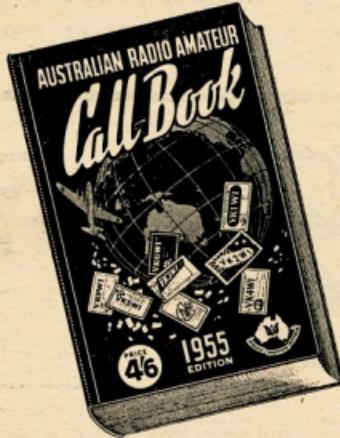
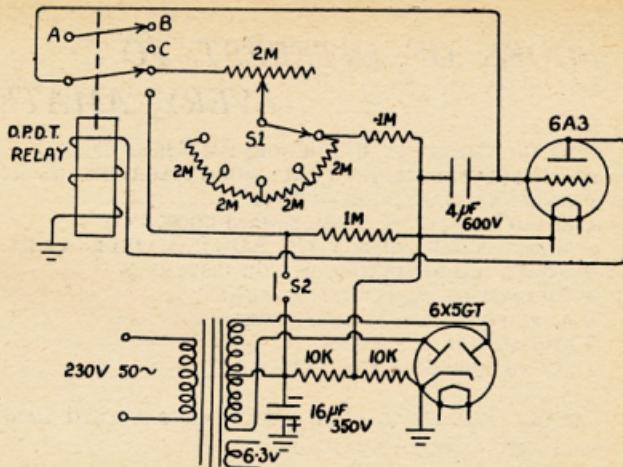
The power supply transformer is a standard type with a 63 v. filament winding and a 150 volts aside 80 Ma. high tension secondary. The condenser shown in the circuit as 4 uF. 600v. should be of as high a voltage rating as possible; 600v. being considered the minimum, as any leakage will affect the accuracy of the timer. A paper block type is most suitable.

All resistors are 1 watt carbon, with the exception of the two 10,000 ohm voltage dividers. These are 5 watt wire wound.

The switch shown as S1 is an ordinary five position wafer type, while S2 is a push button type, normally open. Connections A, B and C may be connected as desired, depending on whether the circuit is to be normally open or closed. Connection through A and B will give a normally open circuit, closing during the timing period.

In use, the unit should be allowed to warm up for about 20 minutes. Approximately 30 seconds after switching on, the relay will close. The 2 meg. control is then set to the desired position and S2 momentarily closed, when the relay will open and remain so for the pre-set time.

To calibrate the timer, you will have to buy, beg, or borrow a **self starting** electric clock with a sweep second hand. This is connected in series with points A and B. By setting the 2 meg. control and S1 to various positions, the clock will indicate the corresponding time delay when S2 is closed. A suitable dial can be marked out accordingly, and the timer is ready to be put to work.



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# AMATEUR CALL SIGNS

FOR MONTH OF APRIL, 1955

These amendments are included in the latest issue of the Australian Radio Amateur Call Book.

## NEW CALL SIGNS

### VK— New South Wales

- 2GH—H. C. Harman, 30 Glenelg St., Raymond Terrace.  
 2AMH—J. R. Howard, 18 Clarke St., Earlwood.  
 2ATB—F. R. Gale, 6 Churchill Cres., Cammeray, Sydney.  
 2AZP—A. H. Parkes, 77 Fenwick St., Bankstown.  
 2AZZ—G. Harriman, Station: Farm 1850, Lake Wyangala, Griffith; Postal: P.O. Box 123V, Griffith.  
 2ZBN—A. D. Nutt, 12 Austral Bldgs., Anzac Parade, Maroubra.

### Victoria

- 3AFU—J. K. Fullagar (Dr.), 34 Sackville St., Kew, E.4.  
 3AHQ—H. Denver, 9 Reid St., Murrumbateman.  
 3APH—P. E. Playsted, Station: 112 Webster St., Ballarat; Postal: C/o. Police Barracks, Russell St., Melbourne.  
 3AZR—P. C. G. Goss, 18 Seymour Gr., Camberwell, E.5.  
 3ZAV—P. D. Ward, "Barrabool House," Highett, Geelong.  
 3ZBJ—G. S. Jennings, Station: C/o. Mrs. M. Hamilton, 37 Byfield St., Reservoir; Postal: 3 Royal Pde., Parkville.

### South Australia

- 5FC—J. W. Millard, C/o. District Council Office, Brandis St., Crystal Brook.  
 5KD—D. F. Dawson, 6 Tinty Cres., Salisbury North, Adelaide.  
 5LJ—J. R. Lewis, C/o. D.C.A. Mess, Box 370, Darwin, N.T.  
 5ZAK—G. A. Tidy, 49 Balcombe Ave., Findon West.

### Tasmania

- 7IB—L. G. Gillies, Post Office, Andover.  
 7RG—R. Garth, C/o. Hydro Electric Commission, Trevallyn, Launceston.

### Territories

- 1JW—J. L. Ward, Mawson, Antarctica.  
 1VH—F. A. Van Hulsen, Mawson, Antarctica.  
 9CK—M. H. Ewen, P.O. Box 56, Port Moresby.  
 9CW—Wau Radio Club, Wau, N.G.  
 9VP—E. Penikis, C/o. Australasian Petroleum Co. Pty. Ltd., Port Moresby.

## CHANGES OF ADDRESS

### VK— New South Wales

- 2AJ—D. E. Hatton, 16 Russell Street, Vaucluse.  
 2IP—G. W. Thornton, 8 Fredben Ave., Cammeray, North Sydney.  
 2QD—R. H. Dixon, Cr. Hague St. and Prune Lane, Lavington, via Albury.  
 2RT—M. F. Tierney, 71 Telopina Ave., Caringbah.  
 2UN—C. Scott, 45 Brax St., Inverell.  
 2ZS—W. J. Smith, Alfred Oval, Lachlan St., Young.

- 2ABU—A. M. Dan (Dr.), 50 Carr St., Coogee.  
 2ADB—A. A. Cheetham, C/o. R. Bennett, 5 Belmore Rd., Penshurst.

- 2AE—E. L. Colyer, Station: Vessel M.Y. "Tiki"; 2ALF—W. J. Morrison, 31 Brook St., Coogee.  
 2ANZ—J. P. Shand, Flat 4, 180 Ocean St., Edgecliff, Sydney.

- 2AQE—L. K. Furber, Lake Albert Rd., Wagga.  
 2ARA—W. N. Short, Station: Lot J1 Government Rd., Beacon Hill; Postal: 98 Auburn Rd., Auburn.  
 2AVF—F. J. Fairleigh, Lot 35 Hutchins Ave., Dubbo.

### Victoria

- 3EI—W. J. Bennett, Albert Hill Rd., Lilydale.  
 3PH—D. D. Paline, Thames St., Frankston.  
 3OX—J. W. Watson, 3 Newbiggin St., Burwood, E.13.  
 3QY—C. W. Richardson, 118 Nepean Highway, Frankston.  
 3XG—B. F. D. Page, Ashby Way, Kilby.  
 3AAC—W. R. Cliftor, Flat 4, "Luamee," Hughenden Rd., East St., Kilda.  
 3ABG—J. A. G. Miller, 334 Malvern Rd., Prahran.  
 3AEW—O. G. G. Washfold, Cr. Jacka and McNamara Sts., Ferndale Creek.  
 3AMI—R. E. A. Grigson, 40 Bowman St., Morialta.  
 3AST—S. J. Lloyd, "Tullamore," Humphries Rd., Frankston.

- Queensland**  
 4DI—L. W. Effeney, 232 Dawson Rd., Rockhampton.  
 4FH—F. Bull, Flat No. 4, Oella's Bldg., Victoria St., Mackay.  
 4LT—A. E. Carter, 66 Dickens St., Carina, Brisbane.  
 4MC—A. D. Macpherson, 915 Gympie Rd., Cheraside, Brisbane.  
 4WT—N. J. G. Watling, Macknade Mill, Ingham.

### South Australia

- 5AP—H. R. Howlett, 11 Wood St., Solomontown, Port Pirie.  
 5MW—K. J. Atkins, Laffer Rd., Blackwood Park.

- 5ST—R. T. Southwood, Station: Private Residence (1/4 mile N.E. of O.T.C. Station VID), Darwin, N.T.; Postal: C/o. P.O. Darwin, N.T.

- 5UF—R. Fenwick, 7 Spark St., Port Augusta.

### Western Australia

- 6CK—C. M. Hayes, 378 Pearson St., Osborne Park, Perth.

### Tasmania

- 6KL—H. Leaver, Watheroo.

- 7FM—T. F. Moore, 66 Lochner St., West Hobart.

## CANCELLED CALL SIGNS

- VK—  
 2ARZ—K. G. Hawkins.  
 2ADR—B. A. Smalley.  
 2AVP—E. Penikis. Now VK9VP\*.  
 3SF—R. Garth. Now VK1TRG\*.  
 3JW—G. H. Faur.  
 3ASV—R. J. Stevens.  
 4ED—K. A. Taylor.  
 4FU—J. K. Fullagar (Dr.). Now VK3AFU\*.  
 4LJ—R. L. Lee. Now VK5JJ\*.  
 4RG—G. E. Ryan.  
 4TC—A. Tremayne.  
 4ZAC—B. M. Byrne.  
 5IB—I. G. Gillies. Now VK7IB\*.  
 5PC—D. E. Mackay.  
 5AQ—L. Ayling.  
 6CD—D. F. Dawson. Now VK5KD\*.  
 6SN—A. W. Sowden.  
 6SP—W. J. Sperring.  
 \* See New Call Signs.

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## BOOK REVIEW

### RADIO AMATEUR'S HANDBOOK

The 1955 edition of the **Radio Amateur's Handbook** has recently been released. The American Radio Relay League is proud to announce publication of this thirty-second edition of a book that is internationally recognised, universally consulted and truly the all-purpose volume of radio. Published continuously since 1926, the Handbook has become a leading reference work for hundreds of thousands of radio amateurs, experimenters, students and engineers.

The new Handbook features five basic chapters of basic radio theory, three chapters concerned with history and Amateur Radio operating practices, three of basic experimental data, and fifteen chapters of advanced theory together with practical constructional details, including transmitters, receivers, transmission lines, antennae, power supplies, single-sideband, frequency modulation, keying, amplitude modulation and microwave techniques.

Among the principal revisions of the new edition are those in the vacuum tube tables and base diagrams. Two full pages listing 67 new tube types have been added to the miniature-tube section alone. Further additions include 26 crystal diodes, 19 rectifiers, 17 transistors, and 32 other types. A complete listing of electrostatic cathode-ray tubes also forms a part of the tube tables.

The chapters concerned with very high frequencies have been extensively changed to improve clarity and to take advantage of techniques developed as a result of greater occupancy of this por-

tion of the radio spectrum. Notable in this respect especially is the chapter dealing with v.h.f. transmitters, which includes equipment using tubes developed in the past year.

The high frequency transmitter chapter also has been widely revised. Many new units are included, incorporating such features as continuous (multiband) tuning circuits and clamp-tube protective circuits.

The Handbook is revised and restyled in the light of current needs as a radio construction manual, reference work, and training text for class or home study. 768 pages, 6½" x 9½", including catalogue section and 11-page index. Over 1,300 illustrations (including 95 charts and tables, and 559 tube-base diagrams), and 85 basic formulae. Price in Australia is 44/3.



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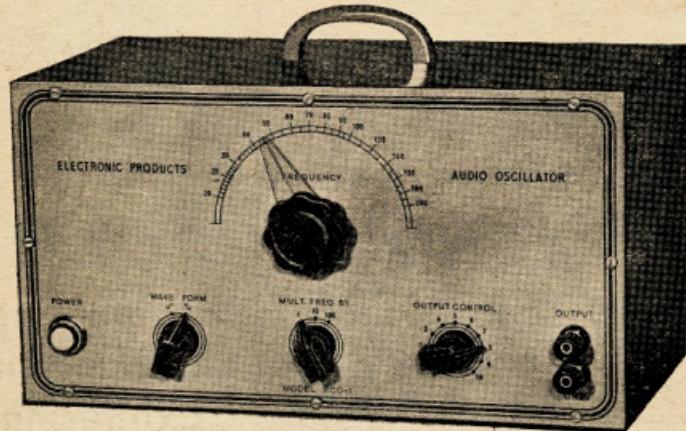
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# REMEMBRANCE DAY CONTEST, 1955

The Remembrance Day Contest is an Australian annual contest to perpetuate the memory of those Australian Amateurs who gave their lives for their country during World War II. It is held on the week-end nearest to the 15th August in each year, the date on which the hostilities ceased in the S.W.P.A.

A Handsome Perpetual Trophy is awarded annually for competition between States, inscribed with the names of those who made the supreme sacrifice, and so perpetuating their memory throughout Amateur Radio in Australia. The name of the winning State each year is also inscribed on the Trophy.

Again this year Amateurs in the VK1 call areas can participate in the Contest. Scoring for contacts with VK1 remain the same, namely, six points per contact per band for all States for contacts with VK1.

## RULES

1. The Contest will commence at 1800 hours E.A.S.T. on 13th August and continue through until 1759 hours on 14th August.

2. The Contest is open to all Australian Amateurs, but only members of the W.L.A. are eligible for the awards.

3. The Contest is an open event—c.w., phone, or a combination of both may be used.

4. The Contest is an Interstate Contest, and Amateurs in each State will endeavour to contact Amateurs in all other States.

5. A station may be operated by more than one operator under the station call sign provided that operators, other than the station licensee, submit a separate log under his own call sign for contest purposes.

To implement this rule, the following procedure shall be adopted by all licensees other than owners of the station concerned.

(a) Licensees operating stations other than their own shall, for the purpose of these rules, be hereinafter referred to as "substitute operators."

(b) **Phone Contacts:** Substitute operators will call "CQ Remembrance Day," followed by the call sign of the station they are operating, and the word "log" followed by their own call sign.

(c) **C.W. Stations:** Substitute operators will call "CQ R.D. de" followed by a group call sign comprising the call sign of the station they are operating, an oblique stroke, and their own call sign.

(d) **Receiving Contestants:** Contestants receiving signals from substitute operators will qualify for points by recording the call sign of the substitute operator only (i.e. the last call sign).

(e) Nothing in (a), (b), or (c) above will preclude the station licensee from participating in the contest himself, providing he submits a separate log under his own call sign.

6. All existing Amateur bands may be used, and all transmissions must conform with the Regulations as laid down in the P.M.G.'s "Handbook for

the Guidance of Operators of Amateur Wireless Stations." Any breaches of these will lead to the disqualification of the operator concerned.

7. The arrangements of schedules for contacts on other bands will not be permitted.

8. All stations entering the Contest will call "CQ RD" if using c.w., and "CQ Remembrance Day" if using phone, subject to rules governing substitute operators under rule 5 (a), (b), and (c) above.

9. A State competing for the Trophy must submit a minimum of six (6) logs from financial members before becoming eligible for contesting the Trophy.

10. Only one contact per station per band is permitted.

11. **Serial numbers** to be exchanged during the Contest will be as follows:

(a) For C.w. the first three figures will be the RST (telegraphy) report, followed by the serial number of the contact commencing with any number between 001 and 100 for the first contact and increasing in value by one (1) for each successive contact. If any contestant reaches 999, he will then commence 001 and continue 002, 003, 004, etc.

(b) For Phone the first two figures will be the RS (telephony) report, followed by the serial number of the contact commencing with any number between 001 and 100 for the first contact and increasing in value by one (1) for each successive contact. If any contestant reaches 999, he will then commence 001 and continue 002, 003, 004, etc.

A complete exchange of serial numbers must take place before any points may be claimed for the contact.

12. In order that an equitable distribution of points for States with a large number of contestants compared with a State with fewer contestants may be determined, a sliding scale of points has been allotted as shown in the scoring table appended.

13. In addition to the points in the scoring table that may be scored by a contestant, a bonus of 25 points may be added to the total score for each State worked on 50 Mc. or above.

14. The log submitted must show in the following order: Date, time, band, emission, call sign, RST/No. sent, RST/No. received, points claimed. No log will be accepted unless laid out in this order.

15. A statement signed by the operator must be attached at the conclusion of the log stating that the Regulations (Rule 6) and these Rules have been observed. Any log departing from this form will automatically be disqualified.

16. All logs must be forwarded through the Contestant's Divisional Council (for membership checking) to reach the Federal Contest Committee, Box 1234K, G.P.O., Adelaide, on or before 10th September, 1955.

17. Attractive certificates will be awarded to the first, second and third highest in each State; there will be no

outright winner for Australia. Where a large number of logs are received from any one State, further certificates may be awarded at the discretion of the Contest Committee.

18. The State to which the Perpetual Trophy will be awarded shall be determined as follows:-

To the average of the top six (6) logs shall be added a bonus arrived at by multiplying this average by the ratio of valid logs submitted by that State to the total of Amateur Licensees in the Division at the time of the Contest.

Example: Total points equals—  
Aver. Score  $\left\{ \begin{array}{l} 1 \text{ plus } \frac{\text{No. of Logs}}{\text{No. of Licensees in Division}} \end{array} \right\}$

19. The logs which will be accepted for the multiplier under Rule 18 shall show at least five (5) contacts in the Contest.

20. The Trophy shall be forwarded to the winning State in its container and will be held by that State for a period of twelve (12) months when the winners for the succeeding year is determined.

21. The Federal Contest Committee shall be the sole adjudicators and their ruling will be binding in the case of any dispute.

## SCORING TABLE

To

	VK1	VK2	VK3	VK4	VK5	VK6	VK7
VK1	-	6	6	6	6	6	6
VK2	6	-	2	3	5	4	6
VK3	6	1	-	3	2	5	6
VK4	6	1	2	-	3	6	5
VK5	6	2	1	3	-	5	4
VK6	6	1	2	4	3	-	5
VK7	6	2	1	4	3	5	-
VK9	6	1	2	3	4	5	6

Note.—Read the table from left to right for points for the various States.

## Examples:—

VK2 scores	1 point for a VK3 contact.
2	" " VK4
3	" " VK5
VK6 scores	1 VK2
2	" " VK3
4	" " VK4

## AUSTRALIAN V.H.F. RECORDS

### TWO-WAY WORK

Band	Mc.	Stations	Date	Miles Rec'd	World
50	VK5KL-WTAC/KH8	26/8/47	5355	10500	
144	VK3GM/3-VK1LZ/PF	9/3/52	317	1400	
288	VK3AF/3-VK3AAF/3	21/3/54	63.8	—	
576	VK3ANW-VK3AKE	11/12/49	81.6	—	
1215				100	
2300	VK3ANW-VK3XA	18/2/50	9.2	150	
5650				—	
10000				100	
21000				800 ft.	
30000				—	

It is in the interests of all v.h.f. enthusiasts to notify F.E. through Divisions if you can better these figures. Please give EXACT details of all locations when submitting your records.

# ROSS A. HULL MEMORIAL V.H.F. CONTEST 1954-55 RESULTS

## WINNER OF TROPHY VK4NG

R. Greenwood, Rockhampton.

### AUSTRALIA

AUSTRALIA	
	South Australia
New South Wales	Points
VK2ABC	1397
2HE	795
2ATS	616
2ZX	413
Victoria	
VK3ZL	1484
3XK	765
3YS	728
3KC	464
Queensland	
VK4NG	3490
4WD	1650
4GG	1242
4MT	150

West. Australia	
	Points
VK5MK	1620
5QR	1205
5AX	307
5ZL	284

Tasmania	
	Points
VK7ZL	820
7BQ	108

Check log from VK6BO.

### OVERSEAS

Points	Points
ZL1BJ	1554
2AGD	952
2DS	874
2ADO	710
3RZ	674

First contact to VK6—VR2CG-VK6HK.

### COMMENTS ON V.H.F. CONTEST

Perusal of the call signs in the top logs in each State showed that approximately 50 stations in VK2, 30 in VK3, 15 in VK4, 15 in VK5 and 15 in VK6, VK7, and VK9 were active. An outstanding feature of the Contest was the participation of nearly 50 stations from all districts in New Zealand, VR2CG/ZL3LR is to be congratulated on his fine score and his success in the first VR2/VK6 contact. VK4NG certainly showed great perseverance.

It is a pity that many stations that participated did not submit logs. This meant that no complete checking could be undertaken by the committee. Fortunately the winning entry was so far ahead that the committee was able to feel satisfied with the checking that could be done.

The committee wish to thank those who took the trouble to send comments and suggestions. The rules, as they were framed by the committee and placed before the Divisions for ratification, were to implement the decisions made at the 1952 Convention. There it was agreed unanimously that all v.h.f. bands were to be included in this Contest. Thus it was felt that it would be futile to make it only an Interstate Contest and in order to introduce the idea slowly, rules for intra-State contacts and a longer operating time were introduced.

The folly of not allowing the Contest Committee to have the final say in drafting rules for these contests was well shown here when some Divisions vetoed the intra-State working and left its companion rule standing. Since there was insufficient time for any further correspondence on the matter, the rules,

a little " pied-piper-ish" to say the least, had to be published as they stood.

Comments received suggest that scoring be 5 points for the first contact with a maximum of 5 contacts; that the time be shortened; that there be a multiplier for low power mobile operation, etc. Decisions on the 1955-56 Contest, which will be the last using the 50-54 Mc. band, must be finalised this month and the committee will give many hours of serious consideration to them.

I would urge you all to respect their combined judgments, for theirs is a deeper insight to the problems involved as they are in closer touch with Federal Executive and its directive, Federal Council. The committee functioning as a unit can carry out the policy as laid down by the Divisions at the Convention to the betterment of the Institute as a whole.

The Ross Hull Memorial Contest is a fine Contest inspired by a great ideal, to perpetuate the memory of a man whose vision was self-less and inspired. Have faith in your committee for they are motivated by that same vision.

G. M. Bowen, VK5XU, Chairman,  
Federal Contest Committee.

### NATIONAL FIELD DAY

Logs have been received from the following: VK2WI; VKs 3ADW, 3AHF, 3APB, 3ARJ, 3GE, 3RN, 3SY, 3XS, 3IE, 3ZAM; VK5PS and one listener's log from N. G. Clarke.

### AMATEUR BANDS AVAILABLE

*1.84	1.86	Mc.	†288	296	M.C.
3.5	3.8	"	†576	585	"
7	7.15	"	1,215	1,300	"
14	14.35	"	2,300	2,450	"
21	21.45	"	5,650	5,850	"
26.96	27.23	"	10,000	10,500	"
28	30	"	†21,000	22,000	"
50	54	"	†30,000	Mc. and	"
144	148	"	Above.		

Available for emergency network purposes only. Note: Amateur activities are not permitted in this band.

Temporary allocations.

### 50 Mc. W.A.S.

Call	Certificate Number	Additional Countries
VK2WJ	13	4
VK3PG	5	3
VK2VW	9	3
VK4RY	2	2
VK4HR	4	2
VK5SLC	1	1
VK6DW	3	1
VK3RR	6	1
VK3HT	7	1
VK2AEZ	10	1
VK3XA	11	1
VK3GM	12	1
VK3ACL	14	1
VK3ZD	16	1
VK2HO	17	1
VK2ABC	8	
VK2WH	15	

### PHASE SHIFT NETWORKS

(Continued from Page 3)

band suppression figure at any frequency if the differential phase shift is known.

Suppose the worst deviation is 2% from 90°, then—

$$\frac{\text{undesired sideband}}{\text{desired sideband}} = \tan\left(\frac{2^\circ}{2}\right)$$

= 0.0174 and  $1 \div 0.0174 = 57$  (approx.)

This ratio is equal to 35 db., as this is the figure for the point of greatest deviation, the sideband suppression of the unit over the greater part of its range would be in excess of 40 db. (a voltage ratio of 100:1). A departure from 90° of 6° is required before the amplitude of the undesired sideband becomes 5% that of the desired one, a rejection of 26 db. This figure is similar to that obtained with some of the simplest crystal excitors, using two or three crystals, where one crystal is used to eliminate the whole of the undesired sideband. This figure of 26 db. would be about the worst one would want to use, as after all one S point = 6 db. and 26 db. of rejection is not a very good performance figure.

The fetish of accuracy of components, the writer thinks, has been a little overdone. It is all right in commercial practice, but in Amateur circles, where extensive test equipment is not available to check the performance of the complete s.s.b. transmitter or receiver, little will be gained by trying to achieve a ratio of more than 100:1 of suppression of the unwanted sideband (40 db.). The reason for this outlook is that nonlinearity of almost any type in the subsequent circuits (either r.f. or a.f.) following the phase shift unit, and differences in phase shift and distortion in the two individual audio channels, all tend to degrade the sideband suppression of the transmitter or receiving adaptor, and thus "put back" a certain amount of the suppressed sideband.

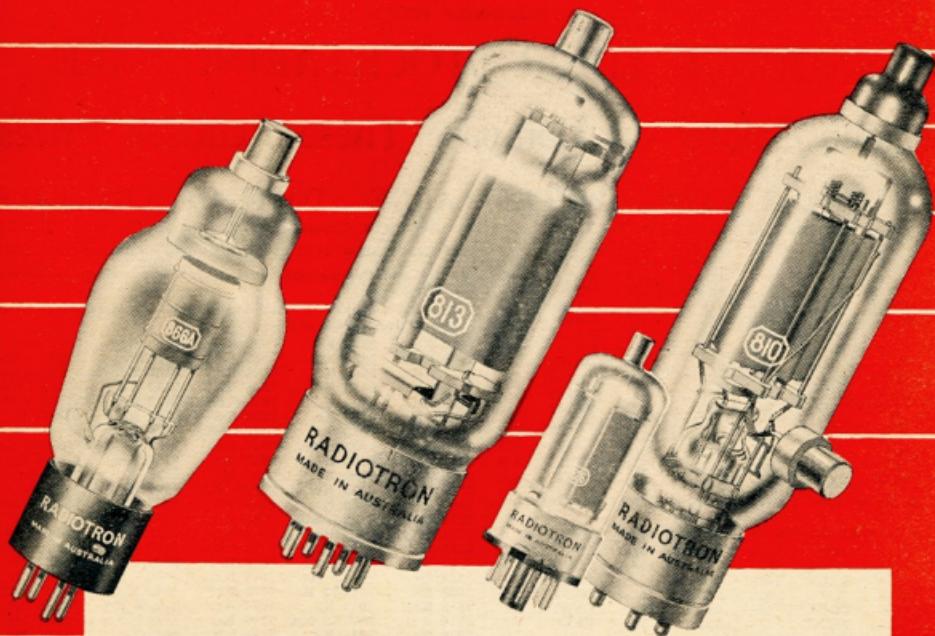
Fortunately, distortion (non-linearity) in cascaded circuits adds up algebraically not arithmetically. For example, if we have a signal with a distortion content of 1% and we fed it into equipment which has a distortion figure of 2%, the resulting distortion in the output signal is given by—

$$\text{distortion in output} = \sqrt{1^2 + 2^2} = \sqrt{5} = 2.24\%$$

The reason therefore of running all s.s.b. equipment at a power level where distortion is low will be apparent. It will well repay anyone building up a phase shift unit to spend a little time working out the formula for the lattice type networks for various values of R1, differing in steps of 1,000 ohms, and see how the component values change. Also in connection with the above, work out some examples of compensation for one component in a pair by varying the other, using the R/C figure method described. You will worry a good deal less about these units afterwards.

This article has been somewhat lengthy because the maths involved have been kept simple and a lot of it "written around," but it is hoped that audio phase shift networks will not be as big a mystery to readers as previously.

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IK4	5/-	GR7G	10/-	12SQ7	2/6	VR32	2/6
3Q5	5/-	GSAT	10/-	12SQ7GT	2/6	VR35	2/6
5V4	10/-	GSC7	10/-	816	15/-	VR38	2/6
6AG7	15/-	GSJ7GT	12/6	866	£1	VR66	2/6
6B8	15/-	6SK7GT	12/6	834	£1	VR73	15/-
6C5	7/6	GSST	12/6	884	£1	VR99	5/-
6C8	7/6	GU7G	10/-	954	10/-	VR102	5/-
6F5	7/6	TA4	5/-	955	10/-	VR103	5/-
6F6	10/-	TA6	5/-	957	10/-	VR105	15/-
6K6	7/6	TA8	5/-	1625	£1	VR122	2/6
6K7	10/-	TB8	5/-	5763	25/-	VR150	15/-
6K7G	7/6	TC7	2/6	EF50	10/-	VT50	2/6
6L7	10/-	TE6	5/-	U10	2/6	VT51	2/6
6L7G	7/6	TE6	5/-	VR18	2/6	VT52	10/-
6N7	10/-	TW7	5/-	VR19	2/6	VT52	10/-

Full stocks of New Valves available. Prices on request.

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IK5	5/-	5U4	12/6	635GT	10/-	6V6	10/-
IK7	5/-	6AC7	10/-	6SA7	10/-	12A6	10/-
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IS5	10/-	6C6	5/-	6SK7	10/-	1625	15/-
2X2	10/-	6D6	5/-	6SL7	15/-	CV92	15/-
3AA	5/-	6H6	5/-	6SN7	7/6	EF50	5/-

C.R.O. Power Supplies, 220-260 AC input, variable HT output: 750v., 1300v., 1900v.; LT output 320v. at 100 Ma. Two 2.5v., one 5v., one 6.3v. filament winding. One 2X2, one 5V4. Complete in metal case 23 x 9 x 14. Few only, £12/10/- F.O.B.

Bendix RAIB Power Supplies, 240 volt AC, 24v. at 1 amp. output 250v. HT ..... £5 each

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2.5v. or 4v. Filament Transformers ..... 15/- each

Chokes, 15 Henry, 100 Ma. ..... 10/- each

Chokes, 15 Henry 175 Ma. ..... 20/- each

Solar 28 pF. silver plated wide-spaced Condensers ..... 7/6 each

2 uF. 1000v. block type Chanex Condensers ..... 12/6

Relays, A.W.A. Aerial Change-over type, 12v. ..... 15/-

English Carbon Mike Transformers, new ..... 5/-

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Valve Sockets, ceramic, 8-pin Octal ..... 2/6

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Following is a list of Crystal Frequencies available for immediate delivery. £2 each—

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2103.1 Kc.	5456 Kc.	7025 Kc.	7125 Kc.	8171.25 Kc.
2112.5 Kc.	5520 Kc.	7032.6 Kc.	7126 Kc.	8176.923 Kc.
2208.1 Kc.	5700 Kc.	7035 Kc.	7130 Kc.	8182.5 Kc.
2218.7 Kc.	5815 Kc.	7042.65 Kc.	7134 Kc.	8183.5 Kc.
3025 Kc.	5892.5 Kc.	7047 Kc.	7135 Kc.	8188.889 Kc.
3662.8 Kc.	6100 Kc.	7050 Kc.	7150 Kc.	8317.2 Kc.
3865.5 Kc.	6350 Kc.	7052 Kc.	7156 Kc.	8320 Kc.
3882.5 Kc.	6375 Kc.	7053.5 Kc.	7163 Kc.	9060 Kc.
3500 Kc.	6450 Kc.	7064 Kc.	7174 Kc.	9125 Kc.
3511 Kc.	6666.7 Kc.	7068 Kc.	7175 Kc.	10 Mc.
3511.2 Kc.	7005 Kc.	7072 Kc.	7725 Kc.	10.511 Mc.
3516 Kc.	7010 Kc.	7073.5 Kc.	7810 Kc.	10.515 Mc.
3527 Kc.	7010.7 Kc.	7075 Kc.	8007.69 Kc.	10.524 Mc.
3540 Kc.	7011.5 Kc.	7077 Kc.	8008.5 Kc.	10.530 Mc.
3825 Kc.	7011.75 Kc.	7079 Kc.	8009 Kc.	10.5465 Mc.
4010 Kc.	7012 Kc.	7088 Kc.	8009.3 Kc.	10.556 Mc.
4070 Kc.	7013.75 Kc.	7100 Kc.	8010.5 Kc.	14.020 Mc.
5050 Kc.	7018 Kc.	7106.7 Kc.	8013 Kc.	14.322 Mc.

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American Metering Kit containing one 0-10 Ma. and one 2 Ma. Meter, 2 inch round. Complete with cords and plugs. £2

Inter-Com. Units, English. Contains two valves, transformers, P.M.G. key switch, resistors, etc. To clear ..... 12/6 each

Shielded Cable with two 12-pin Plugs ..... 7/6

Five-core Cable, not shielded ..... 8d. each

Co-ax Connectors, Ampen type, male and female ..... 7/6 pair

Co-ax Connectors, male/female, small Pi type, new, 2/6 pair

Co-ax, indoor type, cotton covered ..... 1/ yard

Co-ax Cable, any length, 50 ohms ..... 1/9 yard

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# FIFTY MEGACYCLES AND ABOVE

## FORBES TO MELBOURNE AND PORTARLINGTON

V.h.f. DX activity was very excellent during the whole of May, the news of the month being the break through of Hugo 2WH at Forbes to Melbourne and Portarlington. On May 31 he made contact with Max 3BQ, this being Hugo's first Melbourne contact. Then later the same evening he made contact with Arch 3BW at Portarlington, a distance of approximately 390 miles.

Earlier that evening, Arch had been receiving a Q5 SS signal from 2WH while he was in contact with 2AJO at Coolumon. 2WH also worked 3CI at Nagambie on phone, 3VS and 3PG. The next evening he was again putting good signals into Melbourne and was worked both 3BQ and 3VY on phone and c.w. also by 3CI. He was still audible in Melbourne at 10.30 p.m. while in contact with 2AJO. 3ALY heard 2WH, and 3RK and 2WH both heard him another but no contact was made in either case.

An unusual set of conditions was noticed in the reception of 2WH's signals in that when his signal was very strong at Portarlington, he was barely heard at 3BQ at Canterbury, and also where he was coming in well at Canterbury, his signal was still down at Portarlington.

2WH uses a 32 el. phased array. His rx is a crystal controlled cascade converter, 6AK5, G3J, with a 6AK5 triode mixer, 10 Mc. i.f. into a BC348 rx. The tx is 85 watts with a QW0/40 (the equivalent of a 2BC2) final amplifier. His frequency is 144.002 Mc.

## VKS TO ADELAIDE

3ATN at Birchip made a contact with 5MT in Adelaide on 9th May. The contact started on phone and concluded on c.w. and make the first VK3 to Adelaide contact.

## NEW SOUTH WALES

The May meeting of the V.h.f. Group was held at the usual meeting place, Leichhardt Petersham Technical College. 38 members attended, and although the original lecture was given by 2AJL, who failed to attend owing to the fact that he was sick in bed with pneumonia. He arranged a substitute and Bob Hutchins, of the Technical College staff, gave a talk and demonstration on the c.r.o. as used in radio work. This was followed by a question and answer session.

A "raster" was formed and how the number of lines were originated. Bob also showed the members how a square wave generator could be used for checking audio output against input in an amplifier. A vote of thanks was passed by all.

The newly formed b.e.l. and t.v.i. committee held its first meeting at the home of Dr. Bob Black, their chairman. The meeting explored the idea and activity it would encompass in its future. In his absence, Percy 2AQF was elected secretary.

Two Group events have taken place this month, the first being a 2-hour scramble held on Sunday, 15th May. The weather was poor, the event went to Ray 2ZB and Horrie 2HL, who shared first place with 22 pts. each. 2ANF was 2nd with 21 pts., and Cliff 2LG was 3rd with 20 pts. There were 25 stations active during the evening. The second event was the night of a heavy thunder storm. 2ANF mobilised by Eric Griffith, did the hiding. The spot chosen for this was one of the most difficult that the writer has ever searched for, coupled with the fact that it was dark overcast and there was no occasional shower. It was little less than astounding how 2HL, accompanied by 2NP, nonchalantly drove up to the tx, only 40 minutes after the hounds had been released. Horrie was the only one to successfully locate the tx, that being the home of the house and the having some difficulty in finding the tx. Hot dogs were cooked and much rag was chewed, but all were unanimous in their wish for an early repeat of the evening.

The mid-winter contests have been arranged for the months of June and 17th July (Sat. and Sun.) between the hours of 7 p.m. and 11 p.m. on both nights. Stations taking part are to contact as many other stations as possible and exchange the usual signal report procedure. Logs are to be reported to 31st May to Contest Manager, 2ANF. It is to be expected that 2AJA will be an active member in this event as the rest of the v.h.f. gang have now got rid of their cement blocks and can talk to

Arthur in comfort. Yes! Arthur has gone xtal control. He was the last of the mod. osc. boys and we believe that Ted had lived to see the day, but we are not sure that he, as Ted has not been seen at the v.h.f. meetings for some considerable time.

2ANU (Muswellbrook) and 2VU (Singleton) started a small DX session all of their own this month, and decided to get onto the feet of the Sydney boys. Well, they sure did, contacts were made with 2HE, 2ANF, 2AJZ and I believe with some others. 2HE now has slightly skeds at 8.30 with the North, so another link has been established. 2VU has completely overshadowed by the events which took place on the evenings of 31st May and 2nd June. This was "Hugo does it again!" Yes, the inevitable Hugo Stitt 2WH worked from his home QTH at Forbes into Melbourne on 2 mc.

The meeting of the Group was held on the 3rd and over 50 members attended to hear Norm Beard give his deferred lecture entitled "An Introduction to Television." Norm gave us a really fine lecture and all present gratified their desire to learn more about this interesting subject. A vote of thanks was moved by 2QZB and as well as thanking Norm for a fine lecture the meeting expressed their pleasure that Norm was once more able to give cheerfully after his recent illness.

The next meeting of the Group will be held on 1st July - 2AJZ.

## VICTORIA

Further contacts made during May were: 3YS worked 2AJD at Coolumon, this being the first time that 2AJD has worked outside of Victoria. 3MT worked 2AJL at Coburg, 3BZ and 3YS and 3CI worked 2RS at Albury and 3BQ heard 2AJD at Coolumon. 3TI at Mildura was heard by 3ACE at Birchip and also by SLE at Galaga. He had a cross-band contact with them both on 80 m. He has mobilised his SWL and hopes to have his working room. All the Western District stations were coming in at very good strengths during the month and the Melbourne stations had some very good contacts with them.

On May 29, 3ATN and 3ATR went portable to Mt. Arapiles in the Horsham district. They were approx. 1,000 ft. above the surrounding countryside and were using a high-power power supply, running 80w. fully modulated to an E2B. The antenna was on a 40 ft. 80 m. So far the only reports received of their activities is that 3BQ worked them.

There is always plenty of activity on 144 Mc. but not 200 and 400 Mc. It is required that American amateurs who work these bands would they please send any information in regard to conditions, skeds, contacts made or heard, etc., to the publicity officer, 3LN, so that this information may be published in the V.H.F. News and the Magazine for the benefit of other Amateurs interested in these bands. 3AHL and 3ZBB will be operating on 28 Mc. at 1830 hours each evening and looking for contacts.

Eric 3ZL is active on both 2 and 6 mx. His 2 mc tx is a 32ZL driving a 25T triode amp. with 50w. input. The antenna is a beam type 45 deg. high. There is a trough line converter using 6AK5s and 11 Mc. cut-off. His 6 mx tx is a three stage c.c. one with a 35T power amp., 50w. input. The antenna on 6 mx is a 4/4 parabolic beam with a 100w. transmitter consisting of 6AK5s + 6AU5 mixer, 6C4 high freq. amp. 3S 3CI uses a c.c. p.p. 6J6 rx. He is also experimenting with a cascade 5K5, EC81 into a triode 6AK5 mixer. His tx has a QW0/40 final and 11 Mc. cut-off. It operates on 144.002 Mc. The serial is a 32 el. phased array. 3HG at Cranleigh has re-built the front end of his converter and is highly delighted with the signal to noise ratio. Congrats to Neil 3ZAT on passing his exam test and now 3AT and is active from Montreal on 2 mc. He is using a TR1143. His antenna is 16 ft. 8 ft. high.

The country-city get-together of the V.h.f. Group, held in May, was a particular success with 45 members of the group crowded into the rooms of visitors' inns around 3ZL, 3VX, 3AKR, 3GM, 3MHN, 3PO, 3ZB, 3AGD, 3ZD, Ken Hore from Ballarat, two visitors from VK7 during the evening two presentations were made of v.h.f. equipment, certain items of Col 3ZL and Fred 3VY. 3ZD gave a report of activities in the Eastern Zone, which warrants putting the beam round in that direction frequently. The meeting ended with a supper and the night was so successful that the country fellow requested that it be made an annual one.

The Fox Hunt was a victory to the hounds. The starters numbered 11 cars and one motor-bike. On this occasion the Fox 3LN took a run first towards the Western suburbs and

then down South, but everywhere he turned there was a hound tracking him down. However, all enjoyed the evening and 32 participated in the supper and get-together held at the home of Mr. and Mrs. McKellar and Ian 3ZAM and we wish to thank them for their friendly hospitality. In the evening we were available to the Group to finish off the evening.

An omission in last month's notes was mention of the passing of the VK2 "message" by the VK3s in which one of our Z calls featured in the link. The "message" received from 2TS was passed on to 3VY, 3VX, 3ZB, 3AGD, 3ZAM to 3ZAF and 3YS to 3WI, and was sent back again via 3YS and 3UI to 2RS. —3LN.

## SOUTH AUSTRALIA

59 Mc.: The only stations on 50 Mc. last month were Col 3RO and 3MTR. Ken 3KC is still building his new 300 w. rig. Dennis 6 mx man Ron 3MK has vacated the "power leak" and gone down to 14 Mc. Ron's excuse is that he is building a new rx.

144 Mc.: Again the most popular band is the 144 Mc. band. The highest power in the area is that of the 9th March scribe was successful in "just" working Ray 3ATN. The contact was on c.w. and the signals were 549. A vote of thanks was moved by 2QZB and as well as thanking Norm for a fine lecture the meeting expressed their pleasure that Norm was once more able to give cheerfully after his recent illness.

The next meeting of the Group will be held on 1st July - 2AJZ.

## WESTERN AUSTRALIA

Further contacts made during May were: 3YS worked 2AJD at Coolumon, this being the first time that 2AJD has worked outside of Victoria. 3MT worked 2RS at Albury and 3BQ heard 2AJD at Coolumon. 3TI at Mildura was heard by 3ACE at Birchip and also by SLE at Galaga. He had a cross-band contact with them both on 80 m. He has mobilised his SWL and hopes to have his working room. All the Western District stations were coming in at very good strengths during the month and the Melbourne stations had some very good contacts with them.

On May 29, 3ATN and 3ATR went portable to Mt. Arapiles in the Horsham district. They were approx. 1,000 ft. above the surrounding countryside and were using a high-power power supply, running 80w. fully modulated to an E2B. The antenna was on a 40 ft. 80 m. So far the only reports received of their activities is that 3BQ worked them.

There is always plenty of activity on 144 Mc. but not 200 and 400 Mc. It is required that American amateurs who work these bands would they please send any information in regard to conditions, skeds, contacts made or heard, etc., to the publicity officer, 3LN, so that this information may be published in the V.H.F. News and the Magazine for the benefit of other Amateurs interested in these bands. 3AHL and 3ZBB will be operating on 28 Mc. at 1830 hours each evening and looking for contacts.

Station active on 144 Mc. last month were 3RO, 3ZAW, 3ZAA, 5GL, SHD, SLE, SAV and 5JN, the last two stations using mod. osc. etc. I understand Bob 3SP has completed a 144 Mc. converter, how about a tx now Bob?

3ZB Mc.: Dennis 3ZB and 3BQ are active on this band. However activity at the present time is rather low. Dougal 3BY is a newcomer to this band. Has 3PS heard of this traitorous act?

3ZD Mc.: Col 3RO, Ian 3AM and 3MT have been experimenting with some simple gear for the 300 m. band. Col 3RO can copy 5MT 59 Mc. stations being only about 1.5 miles apart - 3MT.

## WESTERN AUSTRALIA

Since the defeat of the motion to admit Licensees to full membership of the W.A. Division, a majority of the interested parties on v.h.f. decided to form a v.h.f. club with full membership rights for the Z boys. Attendance at the two meetings held so far have been very good and the thanks of the members go to Ron 3PFI and his wife and to Syd 3SJ for helping to bring our hosts.

At the April meeting, Ron 3PFI gave a very interesting talk on meteorological conditions and v.h.f. propagation, mentioning the long distances 300 m. bands worked and helped by D.C.A. to the new Visecon at 25,000 ft. height.

At the May meeting, Dennis 3AW spoke about the taking of field strength measurements of broadcast stations and described suitable equipment for the 144 Mc. band and the many advantages of these to test gear available for us. Dennis' talk was much appreciated and who knows someone may have already started to build one.

3P Mc.: Still very much deserved except for an occasional 6B0/4CC and 6H1/6SSC operation.

144 Mc.: 3ZAM has announced at last with a nice diagram from his 2763. Murray is using an 8 el. phased array with plans to extend this to 16 el. Syd 3SJ put up a very nice 50 ft. tower recently. He has a 144 Mc. gen. under construction, should be a very good one. The tower looks strong enough to support a 40 mx beam Syd! Ralph 3ZAD lost his 4/4/4 in the recent gales, but is on the air again with a single 4 el. beam. 3ZAB has been transferred to Perth, so we have a single 4 el. beam available to Kalgoorlie. Don 3DW has temporarily moved to Perth till about August so there are no checks in his direction.

Wally 3WY announces that he will be stocking up a QW0/40 to 100w. feeding into a 12 ap. phased array. Converter is a 636/636 xtal controlled job. The path to Albany (250 miles) will be most interesting.

Still no sound of Dave 6ZAQ, but note his keen interest in the V.h.f. Club. 3ZAE and

**6ZAK** have returned from National Service. Lionel is re-building his modulator and Don is building a new one. In the QSL Card Guidance, Len ZCAT has been heard 5-8 in Fremantle by 6ZAA and another contact should be made here before long.

Jim GRU and Dave SWT made a re-appearance on the band and exchanged signals with their converted 1143's. They caused a minor "dogpile" of boys wanting new contacts! 6ZAA has built up a diode f.m. exciter and is busy on the discriminator as per ZANP's articles in "A.R." Roger 6HK is re-building his f.m. and Roger 6FM is working on his. Jim SWT and 6WJ is prepared to grind anyone's crystal down. Warren shifted down from 144.48 to 144.19 Mc. My word this baby powder stuff must be dynamite! Don GHK has double converted a Compton for use in his proposed 2 mx station.

Don GHK and Wally 6ZAA had an interesting excursion to the Mornington trig point. Conditions were poor and the only two-way contact was with 6BO with signals 449 both ways. 6ZAA was the only other station heard. Afterwards a large piece of equipment was attached to the permag speaker so perhaps this, plus the antenna being surrounded by trees were responsible for the poor signals. However, it was a most informative trip and showed that even 50 mx is not reliable 100 per cent, as noted on that band were little better than on 2 mx.

288 Mc.: 6ZAV and 6BO have been carrying on their tests. Frank SCC was heard by 6ZAA over a distance of 10 miles. The contact was maintained 144, 288 and 312 Mc. It will have to build a 2 stage converter Frank! Stan 6ZAS is wiring up his mod. osc. and should be on the band very soon. Murray 6ZAM and Wally 6ZAA had a crossband QSL from Kalmar, Sweden. Roger 6WJ has a new metal converter, 6J8 mixer, was used and also a modified AR301. Tests from Bessendean to Fremantle over a difficult 15-mile path were unsuccessful. Looks like an r.f. stage is needed! Well! 6ZAV is working on a double mixer using an ASPEI injecting 138 Mc. into both mixers. Tuning from 136 to 140 Mc. he covers the eight megacycles of the 288 Mc. band and the lower frequency oscillator is more stable! Should work very well. Don Cecil 6ZAZ is talking about putting up a 100 ft. tower.

576 Mc. and Above: Nil at the moment. How about it boys?—SHK.

## S.W.L. SECTION\*

### S.W.L. TO BE ISSUED WITH OFFICIAL CALL SIGNS

From the 1st June, 1955, Associate members of the Victorian Division W.L.A. and members of the S.W.L. Group will be issued with official L numbers. This means that s.w.l.'s can have printed on their cards and report forms official s.w.l. numbers.

If you are a member of the Victorian Division and wish to obtain an official s.w.l. number, write to the Secretary, W.L.A. Victorian Division, 191 Queen Street, Melbourne.

Official report forms may be obtained from the above address at a cost of 2/6 per 50 sheets.

### S.W.L. CONTEST

Well last month saw the end of the first official S.W.L. Contest and by the time this issue goes to press, the judges will be examining all entrants' cards.

Results will be published in next month's "Australian Radio" magazine, probably through 2IVF on 7146 Kc. and 3972 Mc. at 1130 hours E.S.T. on Sunday, 31st July, 1955. So chaps, do not forget, have those receivers tuned to those frequencies on that morning. Winners will be notified by mail.

### VICTORIAN S.W.L. GROUP

This Group met in the Club Rooms, 191 Queen Street, on Saturday, 2nd May, at 2015 hours. We had a large number present and had a very good rag-chew on coming attractions of the year. Meeting closed at 2230 hours E.S.T.

### SOUTH AUSTRALIAN S.W.L. GROUP

At the time of writing, no notes had been received from this Group for the month of May. I was informed that VK5 Jim Parry was visiting VK3 during June and then going on to VK5. Jim is on holidays, so good luck Jim and have a good time.

\* Compiled by John Wilson, 37 Rayment Street, Alphington, Vic.

### S.W.L. HINTS AND KINKS

To keep this column going, we wish to hear from any s.w.l. who has any ideas to exchange in this column. Just send all ideas to "Hints and Kinks S.W.L. Section," 37 Rayment Street, Alphington, N.S.W., Vic.

### AROUND THE BANDS

Over the past month the bands have been very active, both week-ends and evening. 20 mx has proved very crowded with both European and Ws, while 40 mx during evenings up to 2000 hours has been quiet at 50 Mc.

Those heard have been: 144 Mc.: From Michael Ide: 3FO, 3YS, 3EN, 3BH, 3BQ, 3RK, 3ZAM, 3ZAY, 3ZAA. He has received QSLs from 3FO, 3BH, 3YS, 3ZAY, and 3ZAM.

21 Mc.: From Rod de Balfour, of VK7LZEE and WOKOK at SS-6 plus VK3 and VK4 and weak Ws.

14 Mc.: Michael Ide—CO1, CO2, GM9 CT1, DL2, 3FH, 3H, 3AS, 3C, 3D, 3E, 3F, 3G, 3H, 3I, 3J, 3K, KG4, KG6, KG8, KS4, KL7, KR8, KW6, KX5, TG9, T12, VE1, VE7, ET2, VR2, 3, YV1, YVS, XE1, XE2, ZM6, VKB, VS1, VS5, 4XA, CT2, JA1, YN1 and W call areas. From Albert Angus—W2-K, 3, 4, 5, 6, 7, 12LC, COZBC.

Gordon Hepburn, of VK5, heard 158 stations on 20 mx during the last month. Receivers is a Kreisler d.w. table model on inside antenna. Good work, Gordon, and from my location, W1-K, OA, KG, KL7, 4X4, 4ST, HP3, KG4, ZL1-Z3. 7 Mc.: My location—VK1-K, WO-9.

Thanks to Michael Ide, Gordon Hepburn, Rod de Balfour, and Albert Angus for your reports.

Broadcast Band DX: Heard on approx 1420 Mc. Standard KX10 for 1000 hours. This station was heard at 0200 E.S.T. and should be a good one during the Winter months. They put on a news service at 0200 till 0205, then hit tunes until 0230 E.S.T.

Also on 930 Mc. Voice of America in the Philippines on SH signal. Real arm-chair copy.

Broadcast Short Wave: AFRS on 31 mc band S9 signal with baseball round-ups at 2100 E.S.T. Radio Australia at 0000 E.S.T. to Asia on Saturday on 40 mc band; excellent signal. Canada to Eastern Australia daily on CKLO 9.63 Mc. (10.15 mc) and CKUA 9.97 Mc. (10.23 mc) at 57.9 Mc. Broadcasts Coriolis is heard on the Saturday transmission. Air times 1845-1915 E.S.T. daily.

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# FEDERAL, QSL, and



# DIVISIONAL NOTES

## FEDERAL

### THE QUEEN HONOURS AMATEUR

A Birthday Honour has been conferred by Her Majesty the Queen on a well known member of the Wireless Institute. The popular President of V.K.S.E.R.I., North Coburg, Vic., has received the M.B.E. Award in recognition of his outstanding assistance in Amateur Radio, particularly in the recent New South Wales floods.

Members throughout Australia will join with Federal Executive in offering congratulations. Well done! Jim, and thanks for your fine work. The honour reflects credit on the Institute.

### TELEVISION

Of all the particular aspects of the Television service, it is probably that of most interest to Amateurs is the matter of frequency channels. These are:-

49 — 56 Mc.	174 — 181 Mc.
63 — 70 Mc.	181 — 188 Mc.
85 — 92 Mc.	188 — 195 Mc.
112 — 119 Mc.	195 — 202 Mc.
139 — 146 Mc.	209 — 216 Mc.

It will be noted that the 49-56 Mc. t.v. band results from the change of the Amateur 50-54 Mc. band being changed to 56-60 Mc. This change will take place in 1956. The 139-146 Mc. bands involve the change of the 144-148 Mc. band to 146-150 Mc. This change, however, is not proposed until 1963.

Amateurs who were on the air pre-war will remember that 56-60 Mc. was one of the authorised bands and was the centre of much experiment before 1939.

### A SILVER ANNIVERSARY

An interesting Silver Anniversary which took place last May was that of "The Calendar," the official news sheet of the I.A.R.U. (International Amateur Radio Union).

The first Calendar was dated May, 1929, and it has been published regularly, except for war years, ever since in June and December. The Calendar was established by the Constitution of 1929, which changed the I.A.R.U. from a

mixture of individual members, national sections, and member-societies to its present form, and its first act was to proclaim the adoption of the then new constitution. Present members on the roll at that time included A.R.R.L., A.R.I., Canadian Section A.R.R.L., R.S.G.B., R.E.F., S.A.R.L. and W.I.A.

## FED. CONTEST COMMITTEE

On another page of this issue will be found the complete rules for the 1955 Remembrance Day Contest. These rules are substantially the same as for the 1954 Contest, except that the operating procedure of what we have termed "satellite stations" has been clarified and incorporated in the body of the rules.

Members will remember that last year the Committee was asked at short notice to clarify rule 5 (which, incidentally, has been in the rules since 1947) concerning their interpretation which was acceptable to W.I.A. members last year and also the Radio Branch of the P.M.G. Department has now been embodied as a subdivision of rule 5.

Your Committee is disappointed they have been obliged to establish the same rules as last year, because it was hoped some formula could be devised to ensure an equitable distribution of points which would fairly reflect the Divisional effort of both large and small States alike. This has not been due to lack of effort on the part of your Committee and others concerned in the popularity of this Contest.

Most comprehensive proposals were made by your Committee, Major Mitchell of Federal Executive and Bill Falconer, our Actuary. The Committee also received most constructive suggestions from the V.K.T. Division.

It appears, however, that no two States could agree on a proposal acceptable to the various members concerned and as a result the rules must remain the same, at least for this year.

The Committee wishes you all the best of luck in the Contest. We would like to see as many participants as possible enter. Come and test this year in the interest of their Division

to whom they owe their support. May the best Division win.

The Committee proposes to publish in the form of an article in the August issue of this magazine some suggestions on operating procedure together with some "Do's and Don'ts" which will assist the Committee in checking logs. Please do your best to follow these suggestions because we can assure you they will help the checking Committee very much, especially at 0100 in the morning during peak periods when their grid drive is very low!"

## FEDERAL QSL BUREAU

RAY JONES, V.K.S.E.R.I., MANAGER

A QSO with YJ1DL brought to light some interesting information on affairs in general in the New Hebrides. He reveals that prior to taking up duty there he was ZC5AB on Christmas Island for some time. He was asked to spell YJ1DL as spell VK4 but decided the Islands better. Informed me that an old time friend in Frank Harvey, YH1RV, had passed away about two years back. Frank, who was an Epi. Bunkovski would be well known to many. He was a member of V.K.T. It states that there are three French Amateurs there although FUSAC is presently on furlough in France. They seldom work non French-speaking Amateurs owing to their knowledge of English being very limited. YJ1DL is currently using 220 watts, but his normal input is 50 watts. The higher power is too costly owing to the power charge being two shillings per kw. hour. Says life will be a little dull from June onwards as the plan for his return is due to cease. He is still in financial member of the N.S.W. Division and states that sometimes he receives "Amateur Radio."

Jim Penhollow V.S.Q.D. of Baling Estate, Kuala Lumpur, Malaya, gave me permission to paper to say he will be going on leave to England in July next and returning to Malaya in 1956. He is disappointed at the tardy response to QSLs, which has him held up on DX C.C., F.I.R.S. and M.A.R.T.A. As QSL Manager for the M.A.R.T.A. he states that for many months

## AN OPEN LETTER

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on end he has not received any despatches from some of the VK sections. He says that as a good number of the Malaya Amateurs are amateurs in name only, it is difficult for them for them to arrive years after the contact as it is then impossible to dispose of them. He lists his personal QSL returns as follows: first figure cards sent, second figure those received: VK5: 1; VK6: 5; VK7: 1; VK8: 1; VK9: 1; VK10: 12; VK5: 29; 11; VK6: 31; 8; VK7: 5; 2; VK8: 10; total cards sent, 220; total received, 61. His remarks about the above list disclose a position that "not so hot!" Surely we can do something to rectify this situation in Malaya. We can start by QSLing when we promise so to do and by Divisional Managers making despatches more frequently. The QSL Bureau address for Malaya is Box 600, Penang, Malaya, and the M.R.C. address for Amateurs in the Federation of Malaya, Singapore, British North Borneo, Sarawak, Brunei, Cocos-Keeling Island, and Christmas Island (ZC3). Jim mentions that ACSAC and VSSGT will be moving to VFO shortly and thence to ZCS.

Very little heard so far of the Yeti at Maxwell. VFO and C.W. contacts are few and far between, an odd VK QSO and a few with South America and Europe. However, South African contacts appear to have been more numerous.

## FEDERAL AWARDS

GORDON WEYNTON, VKXU, MANAGER

W.A.V.K.C.A.

Two applications for this Award have been received and checked. Both applicants have met all the necessary evidence and it meets all requirements except for conditions under clause 2.

The applicants are John Knight, W6YV, and W. A. Wilson, ZL1BY. As soon as evidence under clause 2 is submitted, I will issue my recommendation to the Federal Secretary that Certificates be issued.

### APPOINTMENT OF AWARDS MANAGER

I would like to thank the Federal Executive for appointing me to this position and I assure you that I will do my best to make sure it will not be misplaced. I would like to remind applicants for the DX C.C. and other awards, that they should make themselves familiar with the terms of the awards and the method of application, in order to avoid unnecessary delays and correspondence.

## NEW SOUTH WALES

J. B. CORBIN, M.B.E.

All members of the Wireless Institute will leave with pride that the Institute, through its President or the N.S.W. Division, has been honoured in H.M. The Queen's Birthday Honours List. Mr. Corbin has given sterling service to Amateur Radio for many years, always striving to place it in the sphere to which it rightly belongs. Therefore we feel that he should be congratulated on the decoration bestowed upon him at this time.

### GENERAL MEETING

The general meeting of the Wireless Institute (N.S.W. Division) was held in the usual venue on the last Friday of May. Despite the ravages of the Sydney climate, there was a good attendance when the President, Jim Corbin, opened the meeting. Visitors present, 2HK, 2AXS, and IEG, were welcomed in the usual manner.

The President made an appeal for more members to join the Council in its work, pointing out that a Division of the size of this one could not expect a Council of seven members to carry out its obligations efficiently and expeditiously unless more assistance was forthcoming from members. There are many jobs in which YOU can do and start right now, so just contact any member of Council immediately.

Following a discussion on the recent formation of a B.C.I.T. Committee, the meeting adjourned to Dr. R. Black, ZQZ, Divisional B.C.I. and T.V.L. Officer, and called for volunteers for a T.V.L. Committee to function in conjunction with the Committee already formed by the V.H.F. Group. Hans Ruckert, ZAOU, and Norm Pritchard, ZAU, volunteered their services.

Further business was discussed at the meeting which closed at a late hour.

### NORTHERN SUBURBS

There is not a great deal of activity on the airwaves in the Northern Suburbs these days. Henry 2ASU is increasing his input to 100W. and modulating with a sooper-duper high power modulator—80% in zero bias, with the

negative peaks properly suppressed with a high level clipper. All the gear should be working by the time you read this. DX hunters in this area are doing well and are getting some laurels. Vic 2AWN reports that his ZL special 20 m beam has successfully withstood the elements for the past twelve months. Very pleased with results when the band is open. High power transmitters placed in the shack at a rate of 80Wts in p.p. Ted 2QH hard working VK recently. Does very well with a modest 20-odd watts in a suburban location.

Bill 2AJL seems to have vanished in smoke—or is it paint Bill? Likewise ditto Eric 2AVS. Jim 2TJ occasional calls are still even more rarely, so much so Bob 2PH, Jim 2HPL, are active of late. Domestic responsibilities keep him quiet. Reeks he can't fight his way past the napkins into the shack! Nevertheless he does manage to work WS on 40 m px mode with SSB reports night and day. What can he do? Probably a 25 ft long wire about 70 ft. high, hopefully. Incidentally, he tells me that the Ws cannot understand why we don't use the band more. Country members have more opportunity to erect long wire antennas than we do, so what about it? I expect.

George 2AGO heard recently on 20 mpx after many years of silence. Pleasing to hear a welcome signal from Greenwich. Lyell 2GW and Arthur 2DM had on 15 mpx occasionally. How's the fishpond going? Tom 2GR is another Amateur who seems to have vanished. What's up with the dog? Never heard Tom 2APR these days. They have no excuse now, with that big tranny, low line voltage should not worry you.

By the way, did you note the sudden burst of activity on Easter Monday? Surely the reason is that people are fond of listening but not much talking unless the DX is on. If every licensed Amateur had only ONE contact per month F.E. wouldn't need to plead for more use of the bands. As a matter of interest, have you ever noticed that the weather or the weather during what should be a cool or cold season brings in the DX? Look at Easter Monday for instance—2AWN.

## VICTORIA

It is absolutely sickening, Sir. Absolutely sickening. A short spell of sick leave and what happens. The magazine goes to the dogs. Did you see last month's notes? Did you see last month's mag? Absolutely sickening. Let me go into details. The committee seems to be losing strength—so what? Take the first page, at least three mistakes. Pages 2, 3, and 4 not bad; I checked them myself. Page 7 not bad, although I did not see the proofs. Page 8. Absolutely sickening, Sir!! Here we are, the fact almost croaked, and they devote whole page to Pansy's twaddle about frogs. Then page 14. What a hide, what a nerve. Let me tell you, the Technical Editor will not be pleased to receive letters to anybody except stiff joints. Divisional Sub-Editor, I am sure, is the author of more articles. This business of answering readers' queries is a lowly occupation and will be handed to the Committee, think, and Mr. Felix, Professor, and/or Dorothy, Dix? Next to page 19. Do I see a brilliantly written article modelled on the style of "Pro SP5S" only headed "Pro 3AFJ"? Not on your sweet life. Had it not been for Mrs. JLN and the country boys who would have been the first to point out what I find. Another page by the "stink"—sorry the pen slipped—the Shrinking Violet. I reiterate—"ABSOLUTELY SICKENING SIR!!"

Get back to business for a few minutes. There will be no write up for the May meeting as nobody gave me any gen. The June meeting, however, is a different kettle of fish. Approximately 90 members of the Headquarters Division (excluding persons who were present at the Roy Jones sale) attended and to view the excellent collection of photographs he brought along. For mine, they can keep Antarctica, I'll take Thursday Island.

During the evening 3AAT and 3AFP were present from the Headquarters Division and Messrs. Multon, Sanders, Horne and Alexander as Associate Members. JLN spoke on the Hobbies Exhibition to be held in August and requested that anybody having any ideas for this year to contact him. Two gobs get you four, you know.

The Federal Secretary, whom I suspect is neglecting his duties, is looking for somebody to act as radio instructor one evening per week at an Eastern Suburb. If you are interested in this a very worthy cause and anybody willing to undertake this task is asked to contact said Hon. Fed. Sec., as soon as possible.

Talking of sticky questions, must admit I was stumped on the skin effect, etc. of elliptical gobbledegook. This, I thought, is something quite modern. It was in the Handbook or the published papers of some continental learned society. Decided the best thing to do was to ask some of the newcomers to the ranks, but no luck. Ultimately I asked 3TVA who has been in the game since the year dot on question after question, but to no avail. I expect he was one of the gobbledegook gadgets working for quite sometime when unhappy the wheels fell off. Before he had time to effect the necessary repairs, however, Fred editor and his helpers came into vogue. Bill scrapped his gobbledegook in favour of the more advanced technique. What a pity all Grandpas are not as progressive as Bill.

I have no rx or tx, both being U.S. personal notes look like being restricted to what I pick up from any of the lads I run into. Among these is Eric 3OO who I had the pleasure of seeing this month. Eric is back on 20 mpx again after a long absence but finding the DX rather elusive. Then there is the 3AFV, the lad who had a promising future before him, a lad with the ambition to get on in the world of Amateur Radio, a lad I was fondly guiding on the right path to be a worthy successor to our present editor-in-chief. Tom 2APR. I have me doots. When last speaking to him he kept getting parallel tuned circuits mixed up with blue eyes. When I mentioned half and full waves, he dreamily replied, "Yes down to your shoulders." Looks as though I have a job for life.

Amongst the visitors this last month were Reg 2TW and Gill, his partner in crime. Gill hopes to have a ticket before long. It was very pleasant to see Reg again after two years silence or something. The first day was spent cussing radio and the next three to every subject under the sun. The discussion on modern civilisation was particularly interesting. I only wish with a certain VK had heard it. Reg would now say that same maniac. Reg recently flew home two days early when three pairs of not-so-playful cat took a fancy to his left ear. You were lucky to make it Reg.

Here is the programme for the rest of the year: July—The Amateurs' Workshop III, further test equipment by S. Clark 2ASC; August—Transistors, F. K. McTaggart, M.Sc. 3NW; August 31—General discussion and Exhibition Programme. October—The Amateurs' Workshop, testing of amplifiers S. Clark 2ASC; November—Antenna Demonstration. U.H.F. December—Film Night, February, 1956. Melbourne Technical College Lecture. March—Swap Night. April—Annual General Meeting.

### 90 METRE TRANSMITTER HUNT

At the 90 m Tx Hunt, held in May, the hidden tx was located on a high cliff overlooking the Marlymron River at West Essendon. Len 3LN, who hid the tx, concealed it in the engine of his car and carefully fed a dipole out to earth from front and buried the entire antenna to a depth of 3 inches into the ground over its entire length. He also had a decoy aerial suspended from a kite, but this did not unduly worry the gang as the winner, Reg 2AD, located the tx within 45 minutes of the starting time. Second place went to Laurie 3ALY and third place to Bob JOZ.

### EASTERN ZONE

By the time these notes are published it is hoped that a successful Convention will have been held in Sydney. Doug 2BZ is away in Sydney and Keith 2SS is very busy. He gets on the air for the hook-up. Doug 2BZ is building a cubical quad antenna for 20 mpx so we can expect to hear him snapping up the DX soon on that band. Lindsay 3IO is not very active at the late, but he is busy with the lambing season, etc. He is also the father of a new junior op, another YL.

We hope to hear soon that Bill Higgins, of Heyfield, has been successful in his A.O.C.P. examination. Last time I saw him he was going to sit for his? There have not been any more reports from Ossie 3AHK about DX lately so maybe it is too cold for him in the shack these nights. There is no news from the Bairnsdale boys either so they must also be as inactive as ever.

### SOUTH WESTERN ZONE

Now that we have recovered from the Convention activities, the lads are now more active. Ted 3AEN is breaking up an oscilloscope and he is trying to find an elusive transcondenser pattern. It has been pleasing to hear 2AKC on 2 mpx after his long silence. Even Jack 3SY from the local commercial station, has had time to attend meetings. Keep it up Jack! The others are 3BUU, 3WT, 3AU, 3UP, 3GK, 3PV active. 3AWZ was converting an ARB when last visited. 3AWZ has the rig now on one switch

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£6/18/6

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Directivity—non-directional.

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MIC 22

### SPECIFICATION

Output level = —50 db ref. 1 volt/dyne/cm<sup>2</sup>.

Output impedance—equivalent to approximately 0.002 uF. (0.8 megohm at 100 cycles).

Frequency response—substantially flat from 40 to 6000 c.p.s.

Recommended load resistance—not less than 1 megohm, dependent on low frequency response.



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MIC 23



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Designed to give freedom of movement, this Microphone is small and non-directional. Housed in a soft moulded rubber case, which gives protection against shock, it is provided with a pin at the rear of the case for pinning to the lapel.

### SPECIFICATION

Output level—approx. —55 db ref. 1 volt/dyne/cm<sup>2</sup>.

Recommended load resistance—5 megohms.

Frequency response—level throughout the whole of the audible spectrum.

Capacity—0.0015 uF. at 1000 c.p.s.

Impedance—100,000 ohms at 1000 c.p.s.

Cord—6 ft. shielded cable.

Size—1-9/16" wide x 2½" long x ¾" thick.

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MIC 33

This Microphone has been designed for the high quality public address and home recording field. High sensitivity and flat characteristics are obtained by a specially designed acoustic filter. Housed in an attractive plastic case with an unexcelled response for its size and price. Unaffected by vibration, shock or low frequency wind noise. Omni-directional frequency response substantially flat from 30 to 7000 c.p.s.

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## MICROPHONE INSERTS



(MIC 23 illustrated)

and it is pleasing to get an instantaneous reply. Notified by telephone of my P.M. 3PCG, I called 3ALP, or Chas SXH. A distance sale may wake them from winter hibernation. Vic Clarke and Max Stock have had to postpone Amateur activities because of home duties.

#### NORTH EASTERN ZONE

The highlight of Amateur Radio activity in the North Eastern Zone in the month just past is necessarily the Annual Convention held in Shepparton on 15th May last. Meeting in the new radio 3ZR auditorium in Wyndham St were 3ZU, Chas 3ACW, Syd 3CI, Trevor 3VY, Peter 3AO, Brian 3AF, Les 3AGT, and all the way from Geelong, 3AWZ. Our Associates and their families were in attendance, too. Vern Wyatt, who now operates as 3AXW, Keith Cakebread, Ken Mercer, Graham Moore, Bill Carlisle, Les Cusack, John Goodall, M. Ferguson, Jim Harrington, Ian Tulley and Eric Scones.

Apologies were received from Keith 3JC, Alan 3UI (who was able to turn up later), Alex 3AT, Frank 3ZU, Chas 3ACW, Syd 3CI, Trevor 3VY, Peter 3AO, Brian 3AF, Les 3AGT, who of course is now in Bendigo. D.L. 3AR is not here. Hobart 3AKC was elected President of the Zone, and Vice-Presidents were Col 3WQ and Vern, now 3AXW. Our Associate, Eric Scones is Secretary. The position of zone correspondent was modified in the absence of Eric, so that the work of collecting information in the larger centres has been detailed out to Jack 3AKC in Wangaratta, Ken 3KR in Benalla, Des 3JO in Seymour, and Les 3ALE in Shepparton.

The zone communications are still in the hands of Col 3WQ and Ken 3KR, while the zone co-ordinator is still Henry 3HP.

Attack came in various ways—everybody looked over the man-made skies at 350 then down to the railway station to inspect a diesel-electric locomotive, appropriately engine No. 73. From here to Radio Australia, where the day wound up with a real C.W.A. style cup of tea prepared with assistance, by Mrs. Murray Clyne and Mrs. Les Elaison, a fitting finish to a very interesting day.

The zone hook-up is now each Sunday afternoon on 3WZ at 1230 hours. Where possible, variations from standard patterns will be advertised over 3WZ and in "A.R."

#### CENTRAL WESTERN ZONE

Was pleased to have a visit from Ray 3ATN, of Birchip, and his twin brother recently. He was returning from a trip to Mt. Isa and was looking for a spot for some future tests on 144 Mc. Ray and Trev 3ATR went to this location a couple of weeks later and quite a number of good contacts were made, including one to VK5. Herbs 3NN, of Janac, was not too kind on this day, but I guess it would not dampen the spirits of these two keen 144 Mc. enthusiasts.

Keith 3ATS, of Murton (also your scriber) finds that the drain on home lighting batteries by respective transmitter is quite heavy so is on the lookout for a small alternator which should prove very satisfactory. Heard Neville JACN, of Bendigo, recently and was sorry to hear that his mother had not been in the best of health, so hope that she is better now. Neville's son, con't, in local paid a visit to Herb 3NN, of Janac, and were full of praise with Herb's whole set-up. Herb works on 144 Mc. as well as the lower frequencies. Often hear Jim 3ATL on the band, also Merv 3ATL one of the regulars. There has been good rains through the Wimmera so I expect the country Amateurs will be busy cropping during the next few weeks.

#### MORARBIN RADIO CLUB

The club held their annual Ladies' Night last month and the evening was given over to a film night. The hall was filled and everybody enjoyed the excellent programme screened by the club. At the conclusion, the lights were switched off and the audience was invited to sit in the dark. This was a hit and the ladies did not have "to wash up or clear the dishes," they were done by the O.M.'s.

Since the introduction of various games into the club, this has certainly livened up the social side, especially during the cold weather. Members are reminded to bring along a drinking vessel, as these utensils are a little on the scarce side. The committee has agenda items arranged until the end of the year and by all accounts the meetings and practical nights will prove most interesting.

With the advent of the DX bands opening up, it is hoped that there will be more applicants for the club certificate, especially from the VK Amateurs. The club committee is building a super mobile transceiver. 3AXR was QRL with the mumps last month. 3AQK is building a new rig. Our Secretary, Bill Smith, is very

active with civic affairs and how he finds time to attend to all his duties is a deep mystery. Peter 3AF, who is a member of Geo 3XU, who is now living in the South East corner of Parkdale—now QRM for 3BZ. Another call that will shake the air when he comes on is 3JL, formally 3QQ. What's happened to 3AXC, one does not hear him, likewise 3ACT?

#### GEELONG AMATEUR RADIO CLUB

The official club meetings have not been well attended recently because of the colder evenings, however there has been some excellent discussions. Members engaged in a debate of whether higher power was necessary in Amateur Radio. Many facets were studied—the expense, aerials necessary, QRM and the like. Jack Beckingham demonstrated the practical uses of a vacuum tube voltmeter which was appreciated by all present. Two new members were welcomed, namely Les Rice and Peter Ward.

Bob 3IC has recently returned from a holiday down the Murray where he renewed old friendships with 3AJD, 3AU, 3AV, 3ATL, 3ATR, 3AU, 3AV, Swan Hill. Bill 3AWZ spent a week in the North East and met the boys—had an afternoon with 3WQ. Peter 3APK has purchased a new Typewriter is very happy, now convalescing in hospital, recovering all and well.

The club visited the Electrical Exhibition at the North Melbourne Town Hall and was very pleased with the evening's entertainment.

Members are asked to provide material for the news sheet, and if anyone of you fellows who could give us an evening down here would be well appreciated.

#### BALLARAT AND DISTRICT RADIO SOCIETY

Approx. 25 members were in attendance at the June meeting which was held as usual at the Y.M.C.A. After the business section had been dealt with, those present engaged themselves in some active construction work on the short wave receiver. The 30 Mc. unit of xtal control into a 807 p.a. and efficiency modulated. The rx will be a converter into a h.e. set. The xtal freq. is 3640 Kc. and operation will be confined to 80 m. for the time being.

Members were present to note that the society suddenly lapsed to negligible proportions amongst the active licensed Amateurs. The reason being that a break through to Forbes in VK2 occurred on the meeting night and of the five v.h.f. operators present, three were soon missing or missed out. The Melbourne gang wasted quite a lot of r.f. trying to inform 3PO and company (just as well it wasn't 2LZ dom).

My apologies to the v.h.f. scribe for using his news sheet a little, but this shouldn't be a problem. Having said my piece, I must go and try to smooth out relations before it's time to write this again for next month.

#### QUEENSLAND

##### ROCKHAMPTON ZONE

The monthly meeting was held on the evening of the 22nd May and was well attended. Twenty members being present. After dealing with general news, a farewell was tendered to Hector 4FU, who is leaving north Queensland to take up residence in昆士兰. After disposing of the liquid and other refreshments provided, the Rocky gang were safely in their several beds before midnight. His friends are advised that John should be heard signing 3AFU in the near future.

The 7 Mc. band has recently shown some surprises. Some of the Rocky gang, with some persuasion, VK4 and VK5 have been heard working W phones with fluttering signal reports. After a long period of silence, Col 4CD demonstrated recently that the gear still works, and it is hoped that Col can find time to keep it working. The zone would like to see a return to 7 Mc. in the form of Percy 4PC of Moran.

Mark 4MJ has recently returned safely from a holiday in Sydney and appears to have enjoyed his trip though it seems that the hospitality of the local gang was hard pressed to compensate for the weather.

With improvement in band conditions, local activity on 14 and 21 Mc. has increased and it is hoped that inward QSL officers will report increased business in due course.

#### TOWNSVILLE AREA

A very well attended meeting of the T.B.R.C. was held as usual at the residence of 4BX on 5th May. It was quite pleasing to see such a roll-up and maybe the films acted as a magnet. The meeting was opened with a short talk, duly welcomed the visitors: 4SE, 4LK, of the Flying Doctor Service, 2AQJ (R.A.F.), Dr. Georgeson, Bill Parker, R. Adams and Mr. Danby. The business of the meeting was quickly put through the usual manner and all settled down to enjoy the films, kindly made available by Australian General Electric through the

good offices of 4GE. Many thanks, Ernie, they were well appreciated, especially the film on Victoria—England on transformer equipment for hydro-electric, etc.

An interval was made to allow all present to partake of the savouries put on by Mrs. Walker, who certainly spent some time in arranging the refreshments for the boys. It was agreed that another meeting would be arranged in near future.

Next meeting was held on 2nd June. Mr. Parker finished his lecture on D.M.E. and all adjourned to the top of Castle Hill to see the D.M.E. in action and a large roll-up attended.

Vern 4LK has promised to bring the boys down from Charters Towers for the July meeting when the lecture on Antennae is being arranged.

Ron 4LR is back from the Palm Beach Convention where he enjoyed himself. Harry 3IS is having modulation troubles and hopes to give the key a spell after pounding the brass all day as a chore. 4RU running around gathering birds has failed to get on the air again. 2AQJ wants VK4 and VK5 to visit the Capital Territory. Bud wants to work DX C.C. in a hurry till the boys wake up it is not a new country!—4RW.

#### SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division (which has as its motto, imitation is the sincerest form of flattery) was held in the clubhouse of the Royal Automobile Club of members, and the guest speaker was Mr. Clem Tillbrook (SGL). The VK5 President, Gordon SXU, took the chair but was not permitted to take it very far as he was forcibly seized and made to return it to the rest of the room. Tut-tut, naughty-naughty! Clem 5GU was his subject, "Crystals and Crystal Oscillators," and dealt at length with the good and bad points of the types of crystal oscillators illustrating his points by the use of sketches. He spent quite a time discussing the advantages and disadvantages of the overtone oscillator at the same time drawing attention to its particular advantages in v.h.f. work. The triplex osc. naturally came in for a share of discussion, particularly with respect to its advantage of quick frequency changing from the Amateur's point of view, and Clem wound up his extremely interesting lecture by demonstrating, practically, with the aid of a multiple oscillator, nearly every single type of xtal oscillator known to the Amateur fraternity. This multiple osc. circuit is specially made up by Clem for the radio's lecture and the meeting of the practical demonstration was of particular interest to the younger members of his audience who should also have profited by his practical explanation of xtal frequency checking. A number of questions were answered by Clem, and as Hector SUZ said in his excellent speech on introducing the vote of thanks, all members have come to expect something out of the box when Clem lectures, and so far he has never disappointed us. And so far he has never disappeared.

Very little business was held during the night, although Howard 5XA brought up for discussion his suggestion for a memorial board for all silent keys of the Division, the same to be placed in the meeting room of the Division, which was particularly well received by those present, and the matter was put in the hands of Council for action along those lines. Among the welcome visitors were D. Pfeiffer, R. Lawrie, Dr. C. Linton, Mr. W. Lee, and Mr. C. Macintosh. They were welcomed by the Chairman with the usual VK5 honeyed words. The meeting closed at the respectable hour of 11 p.m. and before leaving all present were requested to sing the national anthem of the VK5 Division which would be held in the Assembly Hall of Prince Alfred College a fortnight later.

The special meeting of the VK5 Division was well attended by members and their wives and families, members of the R.A.F. and various visitors, who had assembled for the purpose of witnessing the General Motors-Holden's "Preview of Progress," which if you don't already know, is a live presentation of the scientific progress of the motor car industry of which is at present in Adelaide for demonstration to all high schools and colleges, and if you have seen it then it is not necessary for me to go into raptures concerning its technical or entertainment value, and you have not seen it then all I can say is you have missed a treat.

Actually the Division made quite a scoop, as very few, if any, outside organisations have been able to put this show on, much as they would like to do so, due to the heavy advance bookings. The whole arrangements were handled by Gordon SXU, our President, and just how he did it remains one of the best kept secrets of the VK5 Division—Pincock notwithstanding.

Each month as we write these notes, with monotonous regularity, I find myself without news from the country areas, and each month



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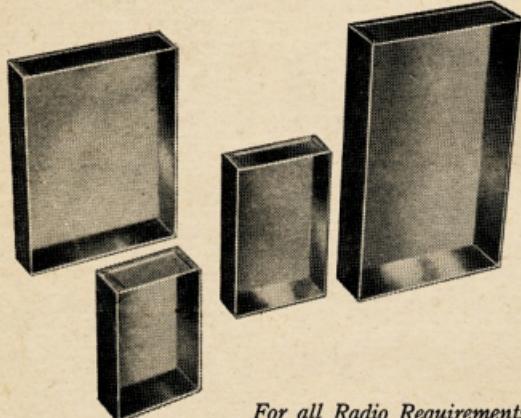
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at the nick of time along comes a letter from one or other of the country areas which saves the day for me. This month I have news of the Port Lincoln area, an area incidentally that has been silent for some time in these notes. My correspondent Wally SDF and he tells me that the area was honored recently by a visit from the worthy Vice-President, John SKX, who was on a working visit, but very busy and unfortunately could not be shown the site. However, John was most welcome and it is hoped that on his next visit he will have time to meet the boys and perhaps check up on the highly reputed DX conditions that are said to abound in large chunks.

Another welcome visitor was Clem SCL, who did not seem to stay long enough to definitely see quite a lot of the 59 cycles. He visited the local 50 cycle hatchery and under the guidance of Wally SDF was very impressed with what he saw.

The atmosphere is at long last being bombarded with signals from the antenna of Pat SLT on 20 mx, although as yet there have been no reports as to the signals arriving at any place. His wooden tower is not up in the air yet, but from what I understand will be long. Jack SWJ always seems to be busy these days fixing up other people's sets and therefore has had no time to chase the spiders out of his tx gear. However, he must slow down some time or other and get a look at spiders, here he comes. Wally SDF was having some royal contact with his moderate nine watts recently when strange noises and odd smells indicated that the contact was finished ahead of schedule, due to the power transformer making the un-welcome noise. Wally decided that the order of the day he decided that it would be a good time to re-build the buffer and final stages of the tx, or to put it bluntly, enjoy himself to the full delving into the innards to see just what had ticked. Many thanks for the news Wally, always remember that no news is bad news for me.

To Charlie 50N goes our deepest sympathy in the loss of his wife this month. It is extremely difficult to put on paper just how one feels in moments like this, but at least I can say that at time is a great healer and our thoughts are with him in his sadness.

Incidentally, in last month's notes I said that Alan SVO was well on the way to good health and that he had been back to work. He has had a relapse and will be confined to the hospital longer than was at first thought. Sorry to hear if it, but keep the chin up, and here's hoping that you will soon be on the jolly old fitter again. Lennox SSL is the proud father of a bonny bouncing boy, this little miracle seems to have come through the ordeal quite OK. We nursed him through the last three or four days successfully although he gave us an anxious time the last few hours. We are happy to advise that he has now lost his father as yet! Congrats. Pat, just fancy another prospective Amateur in the family; do you feel hysterical with joy?

#### SOUTH EAST AREAS

The meeting night of the S.E. gang for May was held to a representative gathering who thoroughly enjoyed the entertaining evening. Erg SKU, who had just returned from holidays in VK4, provided the main entertainment for the night by projecting some excellent colour photos taken during his tour of Halls Gap, Ballarat, Bendigo, Geelong, Warrnambool, and several other places which he had visited. The gang also had the proofs of the photos taken of the boys, and R.D. was popular for personal and many and varied were the remarks made as to the photographic possibilities of those in the said photo proofs! Supper concluded the night and everybody present voted it one of the best gatherings to date.

Erg SKU had been fairly active on the air-report for this month as he has been away on annual vacation, but with the arrival of the colder weather, no doubt, he will be heard more frequently. Tom STW was heard on 40 mx, but not satisfactorily. Try again OM, and be sure to keep listening conditions and getting serviceable as each week goes by. Tom STW has been keeping skeds on 2 mx, but has not been heard on any of the other bands. 10 mx shows promise, however. Col SCL is still active and quite active on 40 mx using low power and getting out extra well. He could not attend this month's meeting because he was sojourning in VK3 and if he runs true to form he will have accumulated quite a pile of disposal equipment.

Col SCL has also been active on 2 and 40 mx carrying out his usual skeds. How are the family OM? Leo SZAG has completed his new beam, but is having a little trouble getting it straight. He is trying to get the ends of the vicinity to tickle with their new patch and keep putting the elements out of alignment. Perhaps Jim SJR will lend you one of his manly umbrellas and then you can work at the

base of the beam without any qualms! Brian SZAB is among the missing for this month, but if all can be believed he is doing real well. Judging by the VK3 v.h.f. notes in the magazine he should be more than satisfied.

Stuart TMS has had a quiet month, as far as the air is concerned, anyway. Stuart has been working on the construction of a 2 mx xtal controlled converter, and hopes to have a 5/3 array up very soon. He has been doing a lot of listening, although finding a little time for activating 20, 40 and 80 m is not always most successful as to any new countries, only two this month, but when one reaches the stage of Stuart with respect to new countries, this is not to be sneered at. John SJA not active as yet, but he may have hours. As my buddy, Pro SPS, said recently, he is probably keeping his thoughts off of Amateur Radio for the present. Incidentally, Pro SPS is very keen on the new craze of color films and very kindly offered to take a photo of me in color. He said that he will print it off of the one when he gets his new cinecamera camera. He tells me that is the only way he could fit me in the viewfinder. Could he be kidding me? Les SAX of Gawler, now has a brand new set-up with a 6146 in the final, and is doing well, thank you. He is still chasing his antennae antenna, but is still not satisfied, either the feeder does not feed or the radiator does not radiate. If I may use the words of a cleverer man than I, "because you put a feeder on the junior op, it doesn't necessarily mean that he will eat!" Thank-you, Ron SPY.

I received a receipt card today from Brisbane showing a decidedly red nosed character holding an outside drinking utensil containing an amber liquid. I had to guess that the liquid on his face and the colour of his nose, he is no stranger to the said liquid. The words on the back of the card tell me that Arch SKX cannot hear my 80 mx signals in Brisbane, and with a smile on his face, he says he will be born by the cat that killed and ate the canary. I reply that he could not hear my signals in Adelaide, let alone in Brisbane. Ho hum! Have a good time Arch!

Speaking of VK4, Associate members' representative on the VKS Council, Jim Powell is spending a couple of months in that fair State. He recently disposed of his grocery business in a northern suburb for several millions and is determined to relax in luxury for some time to come. If any of your VK4 chaps should see a tall handsome stranger with a well lit face lazily strolling down a main street in VK4, watch to see if he opens his wallet. If a couple of moths fly out, that's Jim!

#### WOOMERA RADIO CLUB

Ray SFY is given pride of place in the news from Woomera this month because of the fact that he has become a father for the third time, to a, daughter. Unfortunately he has been on the road to good health. Once again I must repeat that we have never lost a father in VK8; mind you, we have gone close, but we fathers are made of stern stuff, and I am sorry to say, to be overlooked by the XYLs. The two aspiring candidates for the A.O.C.P. from the club appear to be very promising, and by the time this appears in print, Keith and Bernie should know just how the contest has panned out. Keep up the good work, but don't worry if the first time slips you, a better man than you has sat more than once. I began to lose heart after the fifteenth time! Sidney, who is starting back in the field slightly, is doing real well in his studies and a future examination candidate. Keep up OM.

Tom SFY recently took his rig to the bathroom and put an antenna up for it, which added to the rhombic, two centre fed zepps and an end fed vertical makes it even harder to get into shape. Tom SFY makes some mutations concerning the fact that these serials have been able to pick up SXU and SMD, but as yet no SPS. My customary "water off a duck's back" attitude enables me to treat such nasturtions with suitable ignore.

#### TASMANIA

The field day held at Richmond on 15th May was well attended, despite the gusty winds and threatening clouds. The results are due to THB for choosing such a good picnic spot, and also for the trouble he went to in placing marker flags for the cross-paddock drive in.

The 1 and 2 m sets were concealed in a hole dug in the ground on top of a bank, by TLE. Rumour has it that Len plans using a bulldozer next time chaps, so don't forget to take a spade along. First home was TMB, closely followed by TDM, TLL and then TBL. Eric, Benji Watson, and Eric, are the "trophy" of course, is now in the custody of TFM, who hopes to use it as a cavity resonator until such time as he has to hand it over.

An expert throw by Mrs. TLL placed her first as a "throwing the rolling-pin" trophy, but it be that you are an artful dodger, Len?

A blind-fold tx hunt provided quite a bit of amusement for the onlookers, and TFM turned the tables by registering shortest time, whilst Roger Shippard had to be restrained from walking into the river after the tx went silent. Len's (TLE) time was considerably extended by the fact that the tx never seemed to be at the right place at the right time. I think a certain amount of malicious enjoyment was had by pushing the TX around the tx in the around the field, just out of Len's reach. Just goes to show, Len, don't leave the car unlocked next time. On second thoughts though, if it's to be a bulldozer, that will slow them down quite a bit.

The general meeting for June was held at the usual spot with about 21 present, and presided over by TFL. The lecture, given by David Johns, was entitled "Wild Life on Macquarie Island", and it proved most interesting indeed. David also gave a short talk on the various points in his lecture to a most appreciative audience. That reminds me, congrats, are due to David on passing the A.O.C.P. and we hope to hear from you in the near future.

Some time in July, TLE with TWM will go to a mobile hunt and a field night were held over pending better weather.

THB at Richmond has acquired two new antenna poles and is also becoming interested in 2 m. In fact, I think he can recommend the 2 mx band quite freely from the QRM troubles experienced lower down. It's frequently quite free of everything else too, but we can hardly blame the band for that. Barney WAT is busy converting a disposable rx for 144 Mc., and has the job almost under way. You will have to bring more pressure to bear on Tom, Barney, then you can work one way and shoot the other. XYLs permitting, of course.

Tom TAL is spending some time exploring the transmitter side of the hobby and he has a transistor rx working on the band. Me-

think the lecture committee will be looking in your direction soon, Len.

After his recent sojourn in hospital, Athol TAJ is now up and about again, and finding his contributions of rf. to the ether "Dont care". He certainly has no time in settling down to business and now has a beam up and working on 20 mx. Smart work, Doug.

The old grape vine brought to light some interesting news on TDM's activities. Apparently Dave, having recently made a new enclosure, finds now that the lounge room fits it more closely than calculated—or vice-versa. Anyway the two have to be separated and helpful suggestions (giggle barred) would probably be appreciated. Certainly is a "rum" turn, Dave.

Tom TAL, having moved to a new QTH, was dismayed (in a radio sense, of course) to find TDM had not moved. Best you, or a TFD to Doug. Tom and where you are both on together you can absorb each other's energy in the terminating resistors. Associate Sandy Powell (Speccy to you) has succumbed to the audio bug and is sinking quite a bit of the "what-mens" into a double bumber and all the trimmings. After a few months thinking, I believe all is now working with such realism that he has to switch it off, because it makes him feel he is back at work.

#### NORTHERN ZONE

Congratulations have been pouring into the TRB domicile on the arrival of the long-awaited son and heir. From TGM comes news that a mobile 2 mx is well under way, whilst a mobile 10 m is 10-5 m away. TGM is also operating very successfully into a dummy load with this and the recently completed multi-band rx. Gordon will be a force to be reckoned with in the TRB Contest. If one is to believe all one hears, that certain Traveller, TCA, is outdoing the exploits of Marco Polo. TLL is settling in well in the new job.

TLL, TPF and TBJQ have been busy with v.h.f. gear. TAM appears to have deserted the Amateurs, but is present. Holger, Local men are very happy with the weekly weather info. on the ABC Tasmanian stations at 12.25, since quite a lot re temperature inversions is given. As yours truly, TWW (deputising for the late and absent TBM) takes up an appointment in VK3, the "Shaggy Dog" is another's suggestion. For the next annual meeting how about making a real outcry of all zones meeting at Waddamana where all accommodation facilities are available?—TWW.

#### NORTH WESTERN ZONE

News from the central highlands indicates that the Amateurs in that locality are very enthusiastic about v.h.f. and have gone to a great deal of trouble in order to get signals in and out of the zone. Particular attention has been constructed and mounted with vertical polarisation on Mt. King William and Mt. Glynn.

pus and horizontally polarized on Brady's Lookout, which are all over 4,000 ft. in height. These aerials are beamed towards Launceston and anyone hearing signals from them are requested to contact TWF or Mr. Bill Ion, of Bronte Park. It is expected that the installation of additional aerials on Frank's property and Mr. Dunnington will be carried out later on.

The last general meeting of the zone was a combined meeting held at the home of TSF where a very good attendance welcomed two new Associates to the zone. At the meeting it was decided to have a picnic on the 1st of November for the coming summer. The meeting closed with a few words in honour of the late Murray Richardson, TMR, and then adjourned to light refreshments and a demonstration of marker columns which proved extremely interesting.

A visit from ZAI the other day disclosed of many adventures in holiday form in VK3 land and now he appears almost broke with only a few pieces of junk to show for his paddling about. Good luck to you, Ken, wish it had been me.

## PAPUA—NEW GUINEA

News from VK3 this month is somewhat restricted due to the fact that the boys have been QRL or just plain forgetful. One bright spot, however, which will most likely provide an incentive to others to try their luck, was the fact that Frank BFM, with nothing better to do, decided to go to the back door on 2.8 Mc. He hopefully called CQ. Imagine his surprise when a G station answered his call. To prove it wasn't a fluke, Frank decided to try again, this time another G, quickly followed by a PAO. Not satisfied with that, and chasing

his luck, Frank then worked a couple of W stations. Won't be long now, that one will find VK3s dotted throughout the 2.5 Mc. band during the long winter evenings in the Southern Hemisphere. Most likely see you there Frank one evening soon.

VKA and I are arranging a Convention, to be held we believe, in Lae. Appears that some VK4s have expressed their desire to visit us when and where arrangements have been finalised. Perhaps too, that some of the other stations who are interested can be sure that the conviviality and hospitality will be second to none as we do know how to do these things. Lots of arrangements to be made, organising to be done, but details will be made available to all those who may be interested as soon as possible.

This year the VK9 gang intend to field a full team in the R.D. Contest. Details are top secret of course. More than my life is worth to divulge them. I can say this though, "All the participating stations intend to work the clock hands". We are determined to keep our fingers in keeping the gang on their toes, or should we say, glued to their chairs. Just watch our smoke! An alarming thought just occurred to yours truly. Suppose the h.f. transmitter turned its tail up in the wrong direction. An examination of ideas is doubt, but that's a horrible thought.

CS has been visiting the Highlands. Heard recently from SMC in Wau. Hope you can make it sometime soon from your own QTH. Carl Regulars on the Sunday net: SMC, 9RNC, 9RM-SDT, 9AU, 9ER, 9OC, 9CV, 9DZ, 9ED, 9EHD. Would like to see some other VK3s in the Sunday morning net on 7880 Kc. at 1000 hours.

S9S using a cubicle quad on 15 mx and getting some good reports. Bob also has a 3 el beam almost completed for 14 Mc. Looks very impressive, too. Ron 9RG due to go on leave

soon and expects to bring back a brand new rig with him from Australia. Bill 9WP still thumping out a signal with his 4 watts and getting in amongst the W stations. 9BW still in the process of building new rig, hopefully to come on the air today. John 9PT been QRL with official business lately and unable to devote much time to Amateur Radio.

All for this month gang, but please drop me a line every now and then so that we will be able to make something out of this column.

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## CORRESPONDENCE

The opinions expressed in these letters are the individual opinions of the writer, and do not necessarily coincide with those of the publishers.

### ANSWERS TO VK5MK

Editor "A.R." Dear Sir,

With reference to Tom Mulder's (VK5MK) letter published in your June issue, may I use your valuable space to reply?

Mr. Mulder transgresses four of the six clauses in the time-worn Amateurs' Code of Ethics—a code which we Amateurs have zealously treasured since the earliest days of Ham Radio.

Number 2 clause reads: "The Amateur is Loyal to his desire to point out that the Uniform Constitution adopted by all States except VK5, does not discriminate against Limited Class Licensees. The fact that the VK5 Constitution presently discriminates, is an act of disloyalty to the Institute as a whole. The Institute is tiring of dissent until the VK5 Constitution is amended in line with the Uniform Constitution as now proposed."

Number 3 clause reads: "The Amateur is Progressive." A change in time (we are now in 1953) requires a change in outlook. Limited Class Licensees are the future today. Mr. Mulder fails to discriminate against them because they can't read Morse and can't operate on the lower frequency bands. Such an attitude is unprogressive and should be condemned.

Number 4 clause reads: "The Amateur is Friendly." I concur with Mr. Mulder's attitude on this point. The Institute today, Mr. Mulder fails to discriminate against them because they can't read Morse and can't operate on the lower frequency bands. Such an attitude is unprogressive and likely to cause unrest and schism within the Institute.

Number 5 clause reads: "The Amateur is Balanced." Mr. Mulder is balanced against the Limited Class Licensees. The attitude is unbalanced and is unbecoming of a Ham and a gentleman.

I see nothing frightening in the prospect of Limited Class Licenses taking office in the Institute. In fact, I see nothing but good in the suggestion that there should be some. Why it can be imagined that Limited Class Licensees are not to be trusted in office because they can't read Morse or operate on the lower frequency bands, is completely beyond me. Such licensees are not to be trusted because as their fellows on the lower frequency bands and discrimination against them is unjust and unwaranted in the extreme.

If friend Mr. Mulder had sat down and thought about the subject a little more, he would not have written in the vein that was published in June.

Tom Mulder would go up in the estimation of Hams if he would be big enough to withdraw his letter and apologise to the Limited Class Licensees.

—GORDON WEYNTON, VK3XU.

Editor "A.R." Dear Sir,

Being a Limited licensee, I would like to make a reply to Mr. Mulder's letter in June "A.R."

His main point is the assertion that Limited Licensees are not interested in the h.f. bands. I don't know what the position is in the other States is, but here in VK3, the Z boys I've worked, as well as myself, are still interested in 40 and 20 etc., and a number of them are working hard at getting the most out of these bands. Working overseas countries, a thing very rarely done on v.h.f. bands, has a fascination all its own and most Amateurs get the DX bug at some stage of the game. Some do, some don't, no exception.

I, and I think many of the other LL's, regard the Limited ticket as a means to an end. Lack of time or some other reason prohibits some keen Associates from passing the Morse. They pass the theory and reg's. OK, they are probably not qualified to be a member, but if they don't and if as Mr. Mulder thinks, no full licenses (or very few, anyhow) are taken out, then ultimately there won't be anyone to use the lower frequencies and so the h.f. bug wouldn't matter to anybody.

I think a better way of looking at the matter is to regard the L.A.O.C. as an extras rung in the ladder leading to full Amateur status. Despite the fact that I am now a M.W.I.A., I don't regard myself as a full Amateur and will not do so until I have the necessary test and gain experience on the lower frequencies. New blood is coming into the Institute in the person of Z call holders and, of course, this is all to the good. By admitting a LL to full membership, the possibility of retaining the W.L.A. is much increased. If a LL could only join as an Associate (i.e. non-transmitting member), then, I for one would not be satisfied. The only alternative as far as I can see, is to create a separate class of membership, but this leads to administrative difficulties and can cause a type of "class distinction."

The Institute, in my opinion, has done the right thing in making LL's full members—it is a privilege, and I am proud and happy to say that I am a full member of the W.I.A.

—DAVID RANKIN, VK3ZAQ.

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